12. SCHEMATIC DIAGRAMS

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NOTE

- For Schematic Diagram
  - Resistors are in ohms, 1/8W unless otherwise noted.
  - Circled numbers refer to waveforms.

SPECIAL NOTE :
All integratedcircuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostically sensitive (ES) devices" section of this service manual.

NOTE :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

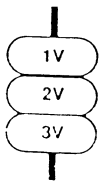
INFORTANT SAFETY NOTICES :
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

GENERAL INFORMATION

- The type of connecting connector to schematics.

1	
2	
3	
4	
5	
6	

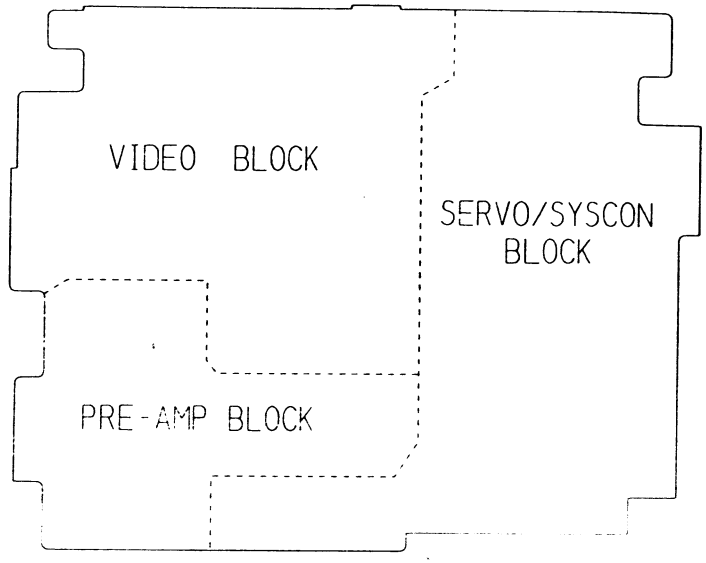
- The type of connecting pattern to schematics.



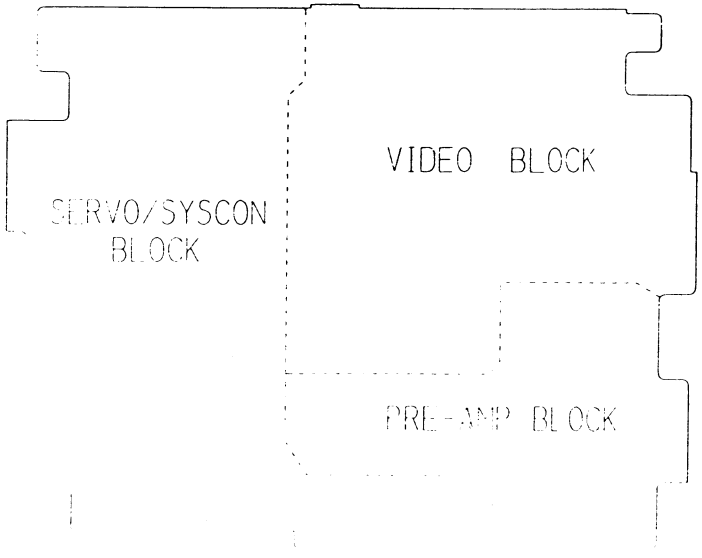
A		A
B		B
C		C
D		D
E		E
F		F

* BLOCK IDENTIFICATION OF VCR/ CAMERA MAIN PCB

VCR MAIN PCB

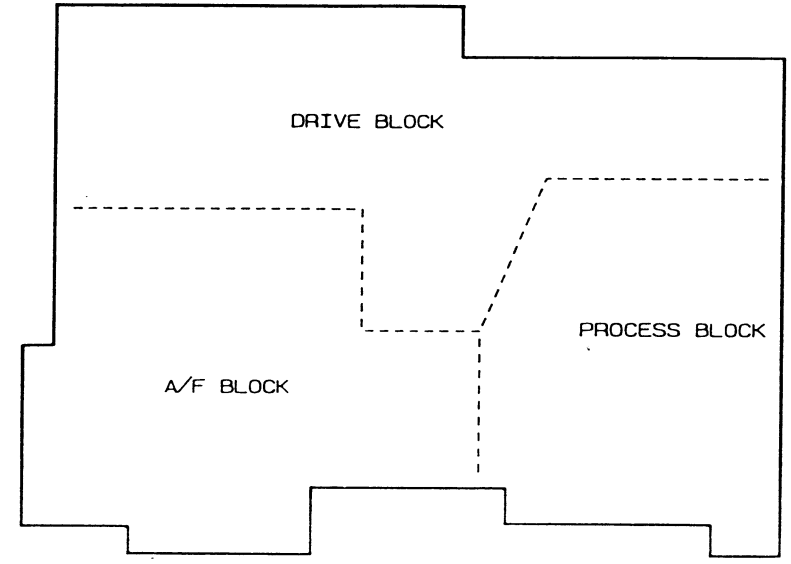


(COMPONENT SIDE)

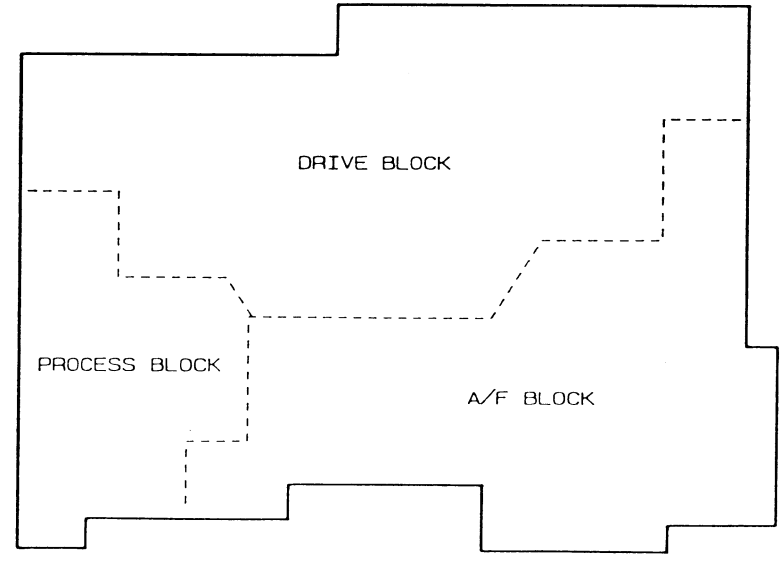


(CONDUCTOR SIDE)

CAMERA MAIN PCB



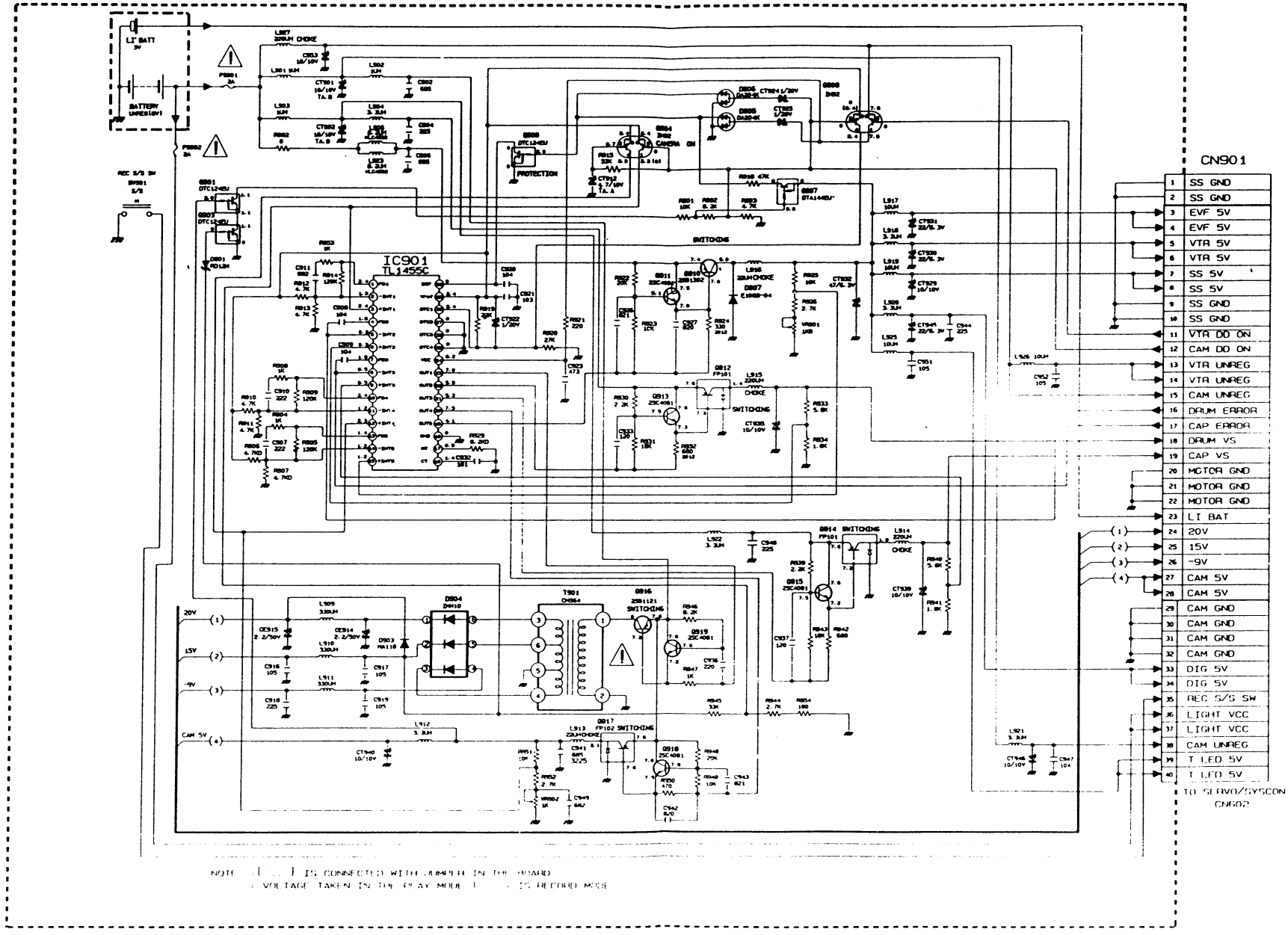
(COMPONENT SIDE)



(CONDUCTOR SIDE)

DC/DC CONV.

12-1. DC/DC CONVERTER



SYSTEM CONTROL
SERVO

12-2. SYSTEM COTROL/SERVO

The schematic diagram of "SYSTEM CONRTOL/SERVO" is on page 12-29

IC601 (CXP80732)

PIN NO	STOP	PLAY	REC
1	0.0	0.0	0.0
2	0.0	4.8	0.0
3	4.8	4.8	4.8
4	0.0	PULS	9.0
5	4.7	0.0	4.7
6	0.0	0.0	0.0
7	4.9	4.9	PULS
8	0.0	0.0	4.5
9	5.0	4.8	4.8
10	0.0	4.8	4.8
11	0.0	0.0	0.0
12	4.9	4.9	4.9
13	0.0	0.0	4.9
14	0.0	0.0	4.9
15	4.9	4.9	4.9
16	0.0	0.0	0.0
17	0.0	0.0	0.0
18	5.0	5.0	5.0
19	5.0	5.0	5.0
20	5.0	5.0	5.0
21	0.0	0.0	0.0
22	5.0	5.0	5.0
23	5.0	5.0	5.0
24	0.0	0.0	0.0
25	0.0	0.0	0.0
26	0.0	0.0	0.0
27	0.0	0.0	3.7
28	0.0	5.0	5.0
29	0.0	0.0	0.0
30	5.0	5.0	5.0
31	PULS	PULS	PULS
32	0.0	0.0	0.7
33	5.0	5.0	5.0
34	5.0	5.0	5.0
35	0.0	5.0	5.0
36	PULS	PULS	PULS
37	PULS	PULS	PULS
38	PULS	PULS	PULS
39	0.0	0.0	0.0
40	5.0	5.0	5.0

IC601 (CXP80732)

PIN NO	STOP	PLAY	REC
41	0.0	0.0	0.0
42	PULS	PULS	PULS
43	PULS	PULS	PULS
44	4.9	4.9	4.9
45	4.9	4.9	4.9
46	PULS	PULS	PULS
47	PULS	PULS	PULS
48	0.0	0.0	0.0
49	0.0	0.0	0.0
50	0.0	0.0	0.0
51	0.0	0.0	0.0
52	0.0	0.0	0.0
53	5.0	5.0	5.0
54	5.0	5.0	5.0
55	3.8	3.8	3.8
56	4.6	4.6	4.6
57	4.6	4.6	4.6
58	4.6	4.6	4.6
59	4.6	4.6	4.6
60	4.0	4.0	3.4
61	3.6	3.6	3.6
62	2.6	PULS	4.0
63	0or5	PULS	PULS
64	0or5	PULS	PULS
65	5.0	0.0	0.0
66	5.0	PULS	PULS
67	0.0	0.0	0.0
68	0.0	PULS	PULS
69	5.0	PULS	PULS
70	5.0	PULS	PULS
71	0.0	0.0	0.0
72	0.0	0.0	0.0
73	5.0	0.0	5.0
74	5.0	5.0	5.0
75	0.0	PULS	PULS
76	0.0	PULS	PULS
77	5.0	PULS	PULS
78	5.0	5.0	5.0
79	PULS	PULS	PULS
80	PULS	PULS	PULS

IC601 (CXP80732)

PIN NO	STOP	PLAY	REC
81	PULS	PULS	PULS
82	5.0	5.0	5.0
83	PULS	PULS	PULS
84	0.0	0.0	0.0
85	5.0	5.0	5.0
86	PULS	PULS	PULS
87	PULS	PULS	PULS
88	0.0	0.0	0.0
89	5.0	5.0	5.0
90	5.0	5.0	5.0
91	0.0	0.0	0.0
92	0.1	0.1	0.1
93	4.8	4.8	0.0
94	4.9	4.9	0.0
95	0.0	4.9	4.9
96	0.0	PULS	PULS
97	0.0	PULS	PULS
98	0.0	PULS	PULS
99	0.0	5.0	5.0
100	0.0	5.0	5.0

IC504 (BA6285)

PIN NO	STOP	PLAY	REC
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	6.85	6.85	6.85
5	6.85	6.85	6.85
6	0.0	0.0	0.0
7	0.0	0.0	0.0
8	0.0	0.0	0.0
9	0.0	0.0	0.0
10	0.0	0.0	0.0
11	0.0	0.0	0.0
12	5.55	5.55	5.55
13	0.0	0.0	0.0
14	0.0	0.0	0.0
15	0.0	0.0	0.0
16	0.0	0.0	0.0

IC501 (KA8322)

PIN NO	STOP	PLAY	REC
1	1.8	1.8	PULS
2	4.8	4.8	0.0
3	2.5	PULS	2.5
4	2.5	2.5	2.5
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.0	1.0	1.0
8	0.0	1.0	1.0
9	0.0	1.0	1.0
10	2.6	2.6	2.6
11	2.6	2.6	2.6
12	2.6	2.6	2.6
13	0.0	0.0	0.0
14	0.0	0.0	0.0
15	2.8	PULS	3.1
16	2.6	2.6	2.6
17	2.5	2.5	2.6
18	0.0	PULS	5.0
19	0.0	5.0	5.0
20	5.0	0.0	5.0
21	0.0	0.0	0.0
22	3.2	PULS	3.0
23	0.0	PULS	0.3
24	0.0	0.3	0.3
25	1.0	1.0	1.0
26	0.0	0.0	5.0
27	0or5	PULS	PULS
28	0or4	PULS	PULS
29	0or4	PULS	PULS
30	0or5	PULS	PULS
31	0.0	0.0	0.0
32	0.0	0.0	0.0
33	0.0	0.0	0.0
34	2.6	2.6	2.6
35	-	-	-
36	0.0	PULS	PULS
37	0.0	PULS	PULS
38	5.0	5.0	5.0
39	0.0	0.0	0.0
40	0.0	0.0	0.0

IC501 (KA8322)

PIN NO	STOP	PLAY	REC
41	0.0	0.0	0.0
42	0.0	0.0	0.0
43	0.0	0.0	0.0
44	0.0	0.0	0.0
45	5.0	5.0	5.0
46	2.6	2.6	2.6
47	0.0	0.0	0.0
48	0.0	0.0	4.3
49	3.3	3.3	PULS
50	2.6	2.6	4.3
51	2.6	PULS	4.5
52	2.5	2.5	0.0
53	0.0	5.0	5.0
54	2.6	PULS	2.6
55	2.6	PULS	2.6
56	2.6	PULS	2.6
57	2.6	PULS	1.6
58	2.6	PULS	1.4
59	2.3	2.3	0.0
60	2.6	2.6	2.6
61	5.1	5.1	5.1
62	3.7	3.7	3.7
63	2.6	2.6	PULS
64	3.3	3.3	PULS

IC505 (CXA1512N)

PIN NO	STOP	PLAY	REC
1	2.0	2.0	2.0
2	2.0	2.0	2.0
3	2.0	2.0	2.0
4	2.0	2.0	2.0
5	2.0	2.0	2.0
6	2.0	2.0	2.0
7	0.0	0.0	0.0
8	1.95	1.95	1.95
9	0.0	PULS	PULS
10	5.0	PULS	PULS
11	5.0	5.0	5.0
12	0.0	0.0	0.0
13	2.9	2.9	2.9
14	2.85	2.85	2.8

IC502 (TPIC 1327)

PIN NO	STOP	PLAY	REC
1	0.1	0.15	0.15
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.4	0.4	0.4
6	0.0	1.3	1.3
7	0.0	4.85	4.85
8	0.0	5.9	5.9
9	0.0	5.9	5.9
10	0.0	0.0	0.0
11	0.0	0.0	0.0
12	6.83	6.83	6.83
13	0.1	1.25	1.25
14	0.0	PULS	PULS
15	0.0	0.0	0.0
16	0.0	PULS	PULS
17	0.0	0.0	0.0
18	0.0	PULS	PULS
19	0.1	1.25	1.25
20	0.0	PULS	PULS
21	0.0	PULS	PULS
22	0.0	PULS	PULS
23	0.0	PULS	PULS
24	0.0	3.85	3.85
25	0.0	0.65	0.65
26	0.0	0.5	0.5
27	0.0	0.7	0.7
28	0.0	0.7	0.7
29	0.0	0.7	0.7
30	5.0	5.0	5.0

IC602 (S8420)

PIN NO	STOP	PLAY	REC
1	5.1	5.1	5.1
2	0.0	0.0	0.0
3	5.2	5.2	5.2
4	0.0	0.0	0.0
5	4.95	4.95	4.95
6	0.0	0.0	0.0
7	5.15	5.15	5.15
8	6.8	6.8	6.8

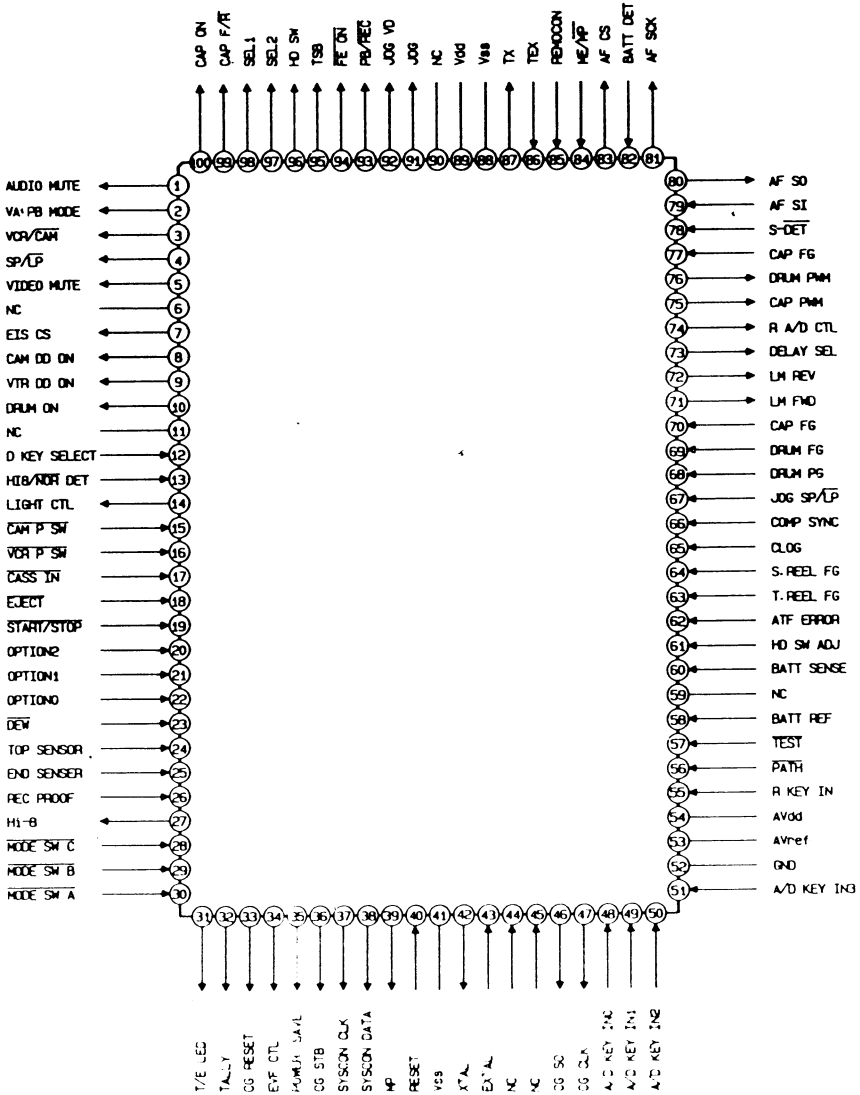
IC503 (LB1851M)

PIN NO	STOP	PLAY	REC
1	0.0	0.0	0.0
2	0.0	0.0	0.0
3	0.0	PULS	PULS
4	0.2	1.85	1.85
5	6.85	6.8	6.8
6	5.1	5.1	5.1
7	0.0	4.9	4.9
8	0.0	0.75	0.75
9	0.0	0.75	0.75
10	0.0	2.55	2.55
11	2.55	2.55	2.55
12	0.0	PULS	PULS
13	5.0	PULS	PULS
14	0.0	0.0	0.0
15	0.0	0.0	0.0
16	0.0	0.0	0.0
17	0.0	0.0	0.0
18	0.0	3.0	[illegible]
19	0.0	0.0	[illegible]
20	1.6	1.6	[illegible]
21	1.6	1.6	[illegible]
22	2.0	2.0	2.0
23	2.0	2.0	2.0
24	2.4	2.4	2.4
25	2.4	2.4	2.4
26	0.0	0.0	0.0
27	0.0	PULS	PULS
28	0.0	PULS	PULS
29	0.0	0.0	0.0
30	0.0	0.0	0.0

IC506 (TA75S01F)

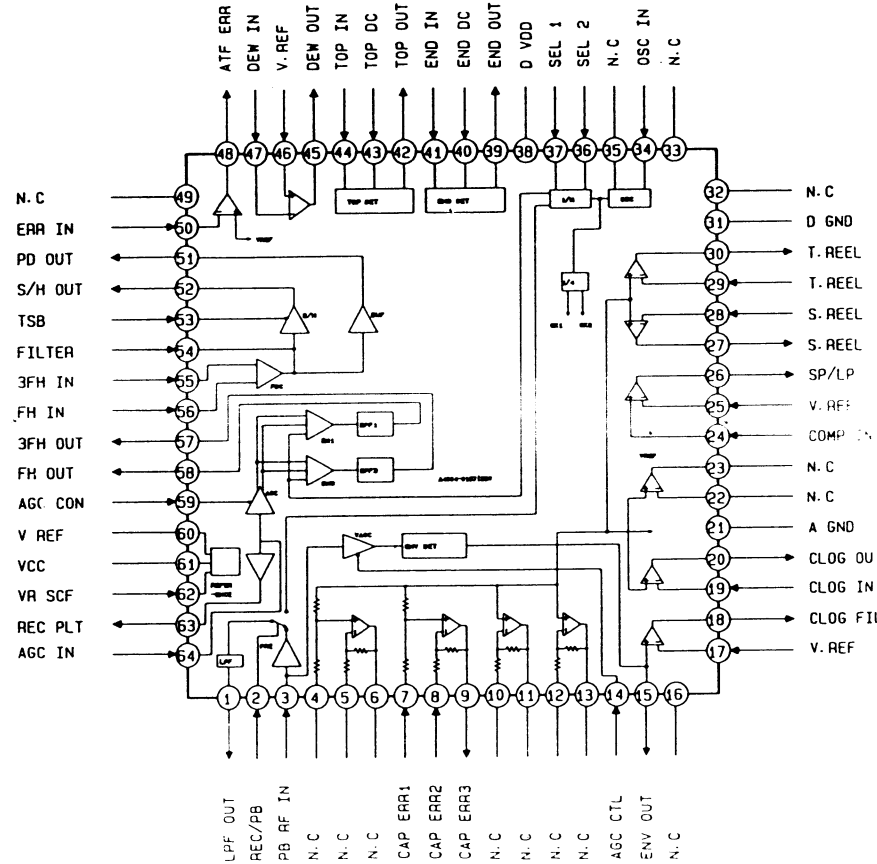
PIN NO	STOP	PLAY	REC
1	2.5	2.5	2.5
2	0.0	0.0	0.0
3	2.5	2.5	2.5
4	1.0	1.0	1.0
5	5.0	5.0	[illegible]

IC601 CXP80782



SYSTEM CONTROL SERVO

IC501 KA8322



VIDEO

12-3. VIDEO

The schematic diagram of "VIDEO" is on page 12-30

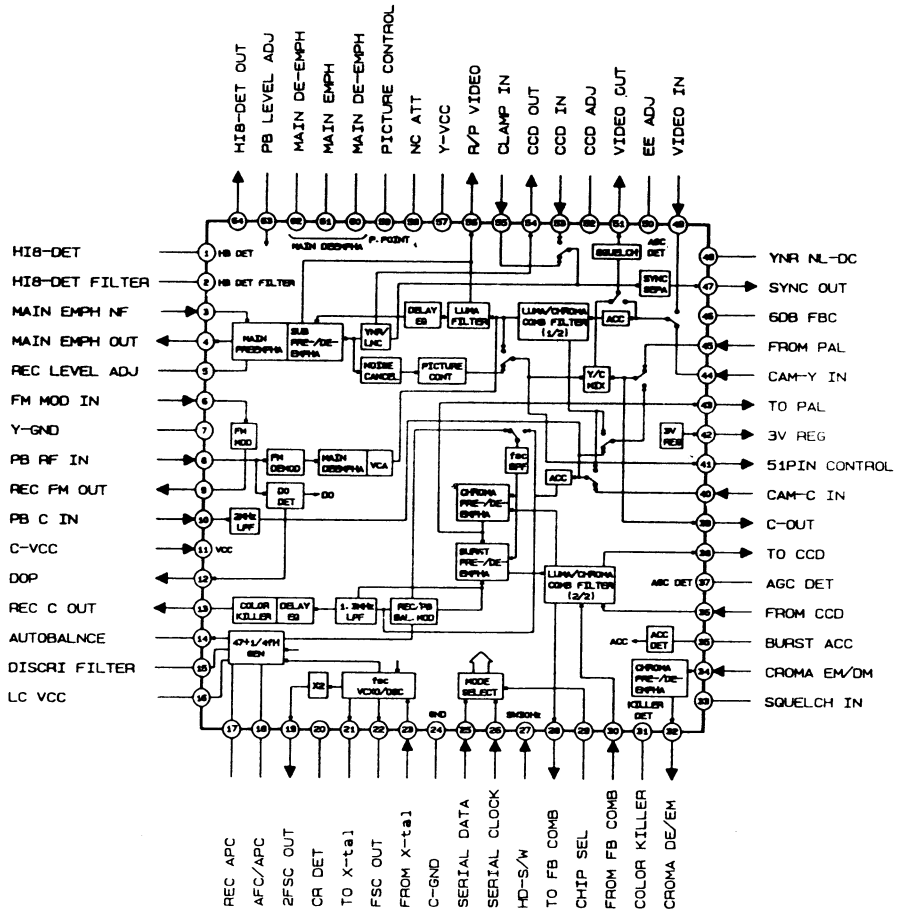
IC200 (HA118192F)		
PIN NO	REC	PLAY
1	3.9	2.6
2	0	0
3	2.7	2.0
4	2.7	2.0
5	2.0	2.0
6	2.8	2.5
7	0	0
8	3.3	2.9
9	3.3	4.1
10	2.5	2.3
11	5.0	5.0
12	4.4	4.2
13	2.4	0
14	2.6	2.2
15	2.8	2.4
16	5.0	5.0
17	2.7	2.7
18	2.8	2.2
19	2.8	2.5
20	2.8	2.5
21	–	–
22	–	–
23	–	–
24	0	0
25	–	–
26	–	–
27	–	–
28	2.5	2.5
29	0	0
30	3.3	3.1
31	1.3	2.2
32	2.6	2.5
33	0.3	0.3
34	2.5	2.5
35	3.2	2.0
36	3.2	3.0
37	2.8	1.8
38	2.0	1.8
39	2.5	2.2
40	2.5	2.5

IC200 (HA118192F)		
PIN NO	REC	PLAY
41	1.0	1.0
42	3.2	3.2
43	2.9	2.5
44	3.1	2.8
45	2.5	2.0
46	3.1	2.4
47	5.0	5.0
48	1.7	1.7
49	3.2	3.2
50	2.5	2.5
51	2.4	1.4
52	1.8	1.6
53	3.3	2.8
54	2.8	2.2
55	3.3	3.0
56	2.5	2.5
57	5.0	5.0
58	4.0	1.7
59	2.7	2.7
60	0	0
61	2.9	2.9
62	0	0.5
63	2.4	2.4
64	4.4	4.2

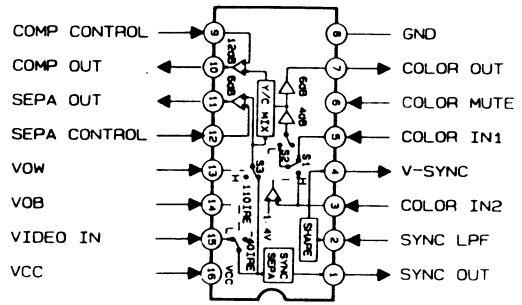
IC450 (CXL1506)		
PIN NO	REC	PLAY
1	0.0	0.0
2	1.8	1.8
3	2.2	2.2
4	0.0	0.0
5	1.4	1.4
6	0.0	0.0
7	1.6	1.6
8	0.0	0.0
9	0.0	0.0
10	0.0	0.0
11	4.8	4.8
12	4.8	4.8
13	4.8	4.8
14	0.0	0.0
15	1.8	1.8
16	1.5	1.8
17	4.7	4.7
18	0.6	0.6
19	0.0	0.0
20	0.0	0.0

IC451(MSM7403MS)		
PIN NO	REC	PLAY
1	–	–
2	0.0V	0.0V
3	5.0V	5.0V
4	–	–
5	2.2V	2.2V
6	2.2V	2.2V
7	2.5V	2.5V
8	–	–

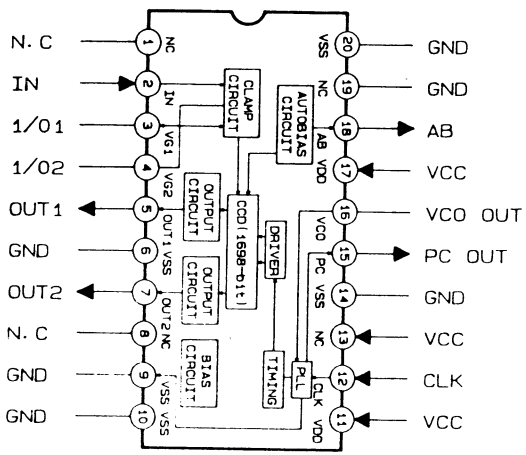
IC200 HA118192F



IC300 MM1024

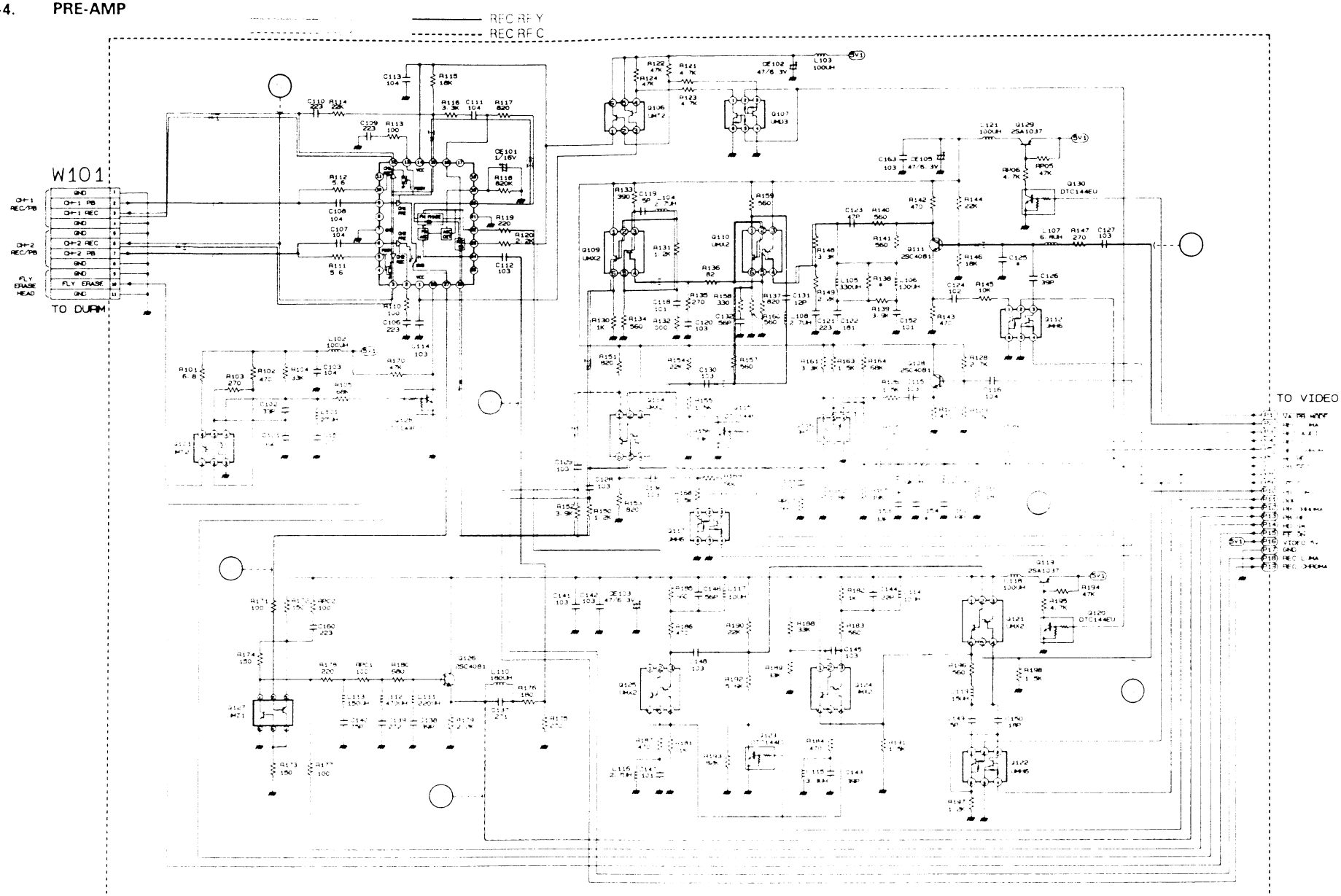


IC450 CXL1506N



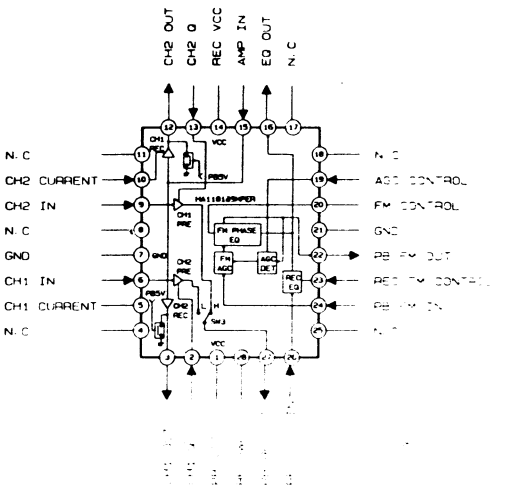
PRE-AMP

12-4. PRE-AMP

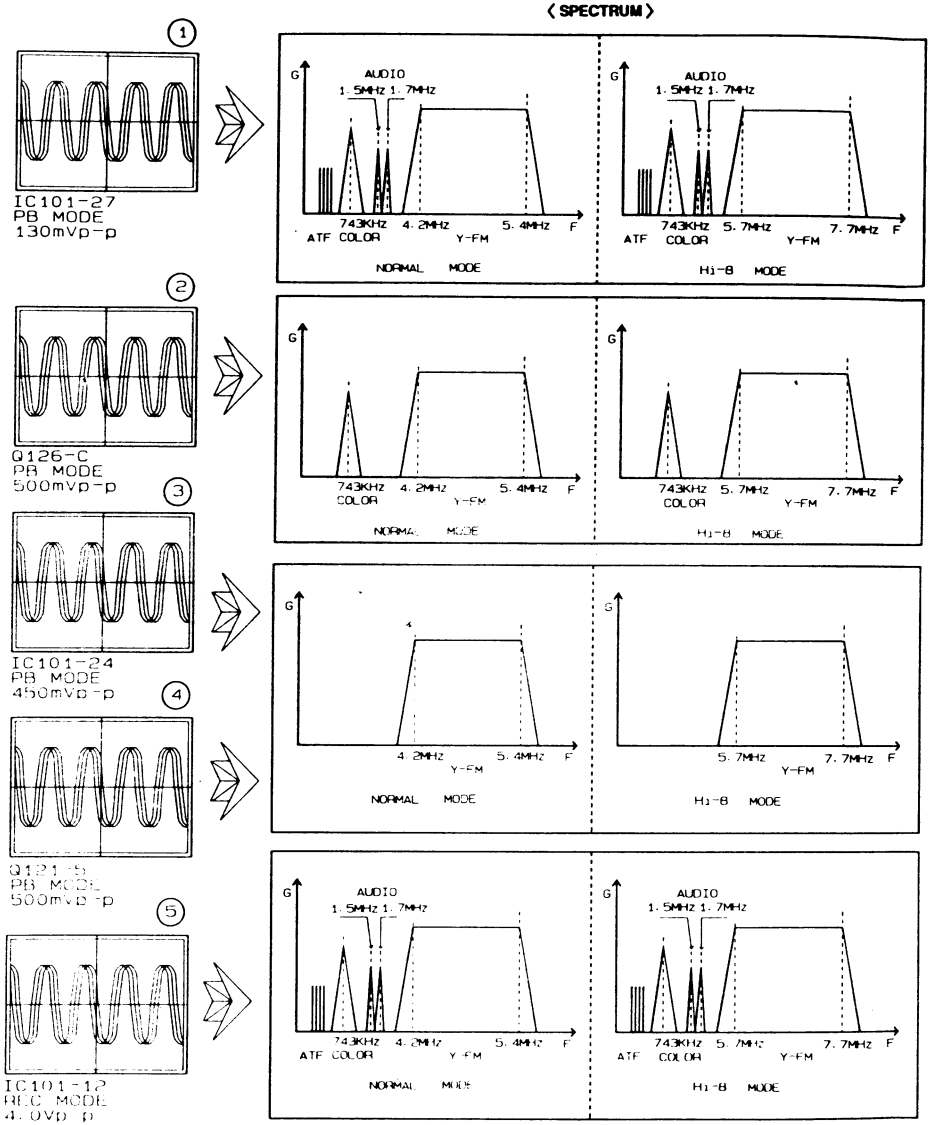


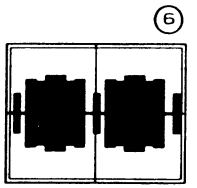
PRE-AMP

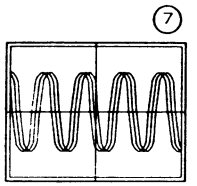
IC101 HA118189MP



〈 SPECTRUM 〉



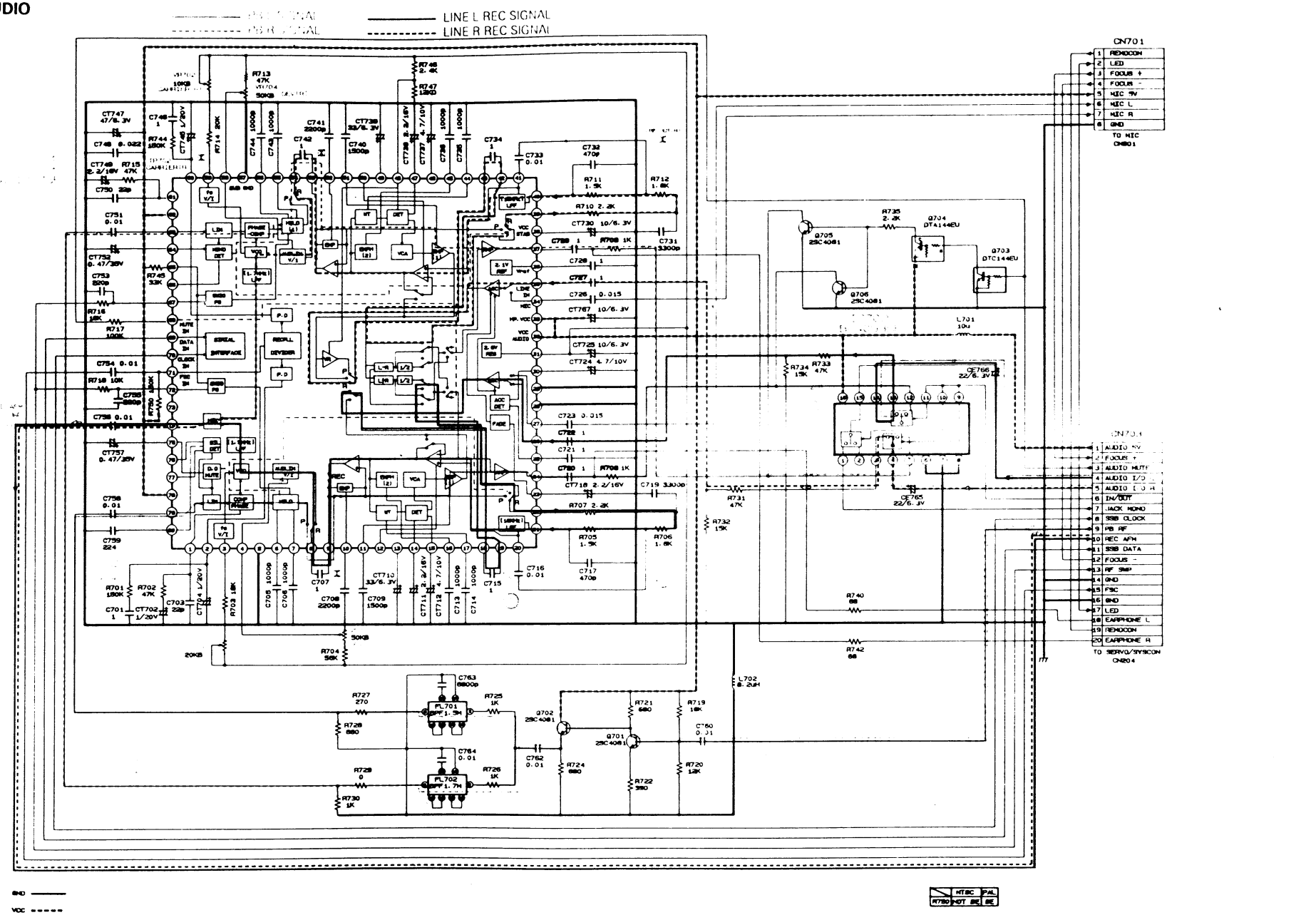




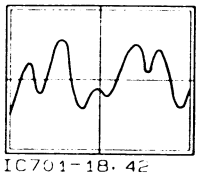
IC101 (HA118189)		
PIN NO	REC	PLAY
1	5.0	0.0
2	2.3	0.0
3	0.0	4.0
4	0.0	0.0
5	0.0	4.1
6	0.8	0.0
7	0.0	0.0
8	0.8	0.0
9	0.0	0.0
10	2.5	4.1
11	0.0	0.0
12	0.0	4.0
13	2.3	0.0
14	0.0	5.0
15	0.0	1.8
16	2.1	2.4
17	0.0	0.0
18	0.0	0.0
19	1.5	0.0
20	2.1	2.4
21	0.0	0.0
22	2.7	0.0
23	0.0	4.0
24	3.7	0.0
25	0.0	0.0
26	0.0	0.9
27	3.2	0.4
28	-	-

AUDIO

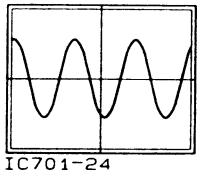
12-5. AUDIO



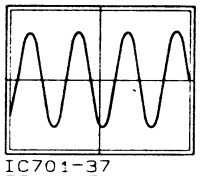
AUDIO

① 

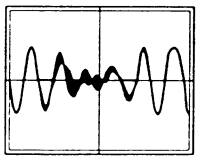
IC701-18.42
PB MODE
400mVp-p

② 

IC701-24
PB MODE
1.0Vp-p

③ 

IC701-37
PB MODE
1.0Vp-p

④ 

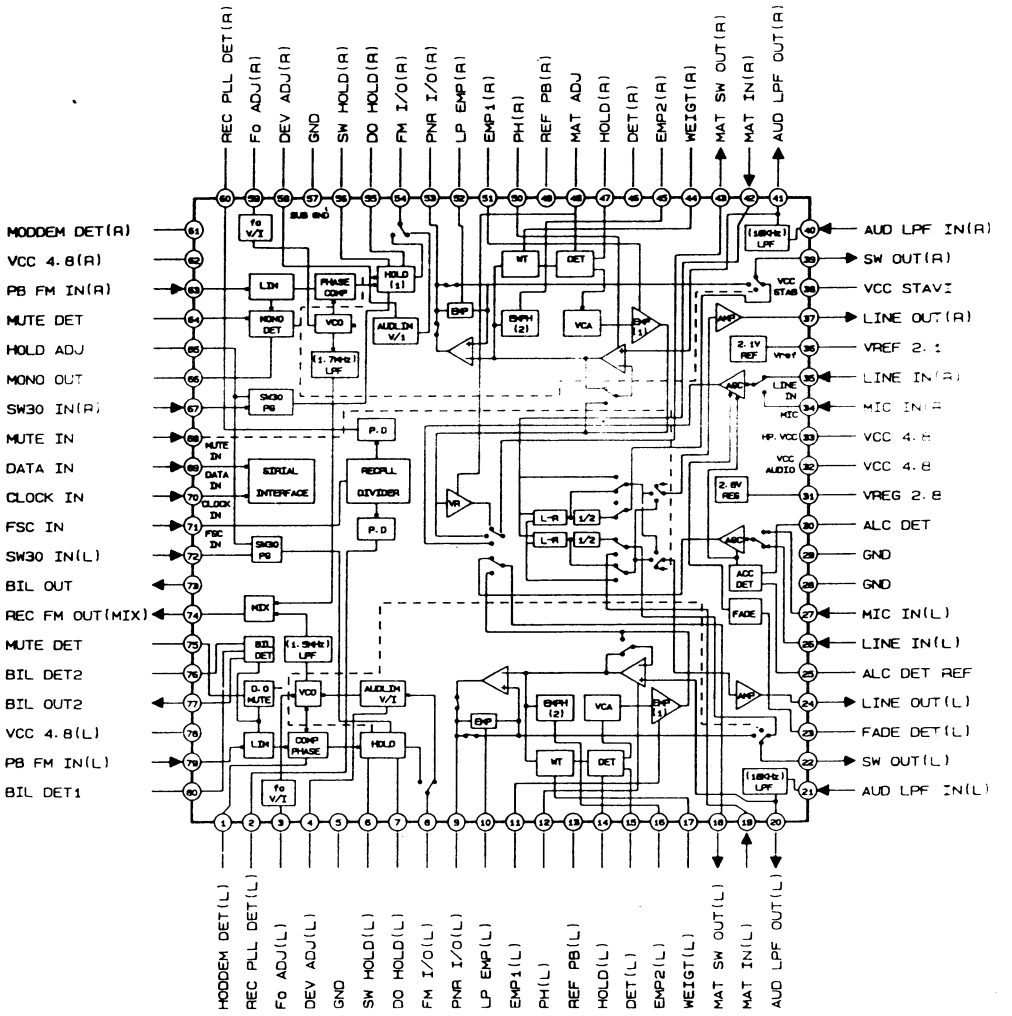
IC701-74
RECMODE
200mVp-p

IC701 (HA118276F)					
PIN NO	REC	PLAY	PIN NO	REC	PLAY
1	0	2.0	41	2.0	2.0
2	2.0	2.0	42	2.0	2.0
3	1.84	1.84	43	2.0	2.0
4	0.7	0.7	44	2.0	2.0
5	0	0	45	2.0	2.0
6	0	2.0	46	0.3	0.3
7	0	2.0	47	0.3	0.3
8	2.0	2.0	48	2.8	2.8
9	2.0	2.0	49	2.0	2.0
10	2.0	2.0	50	2.8	2.8
11	2.0	2.0	51	2.0	2.0
12	2.7	2.7	52	2.0	2.0
13	2.0	2.0	53	2.0	2.0
14	0.25	0.25	54	2.0	2.0
15	0.25	0.25	55	0	2.0
16	2.0	2.0	56	0	2.0
17	2.0	2.0	57	0	0
18	2.0	2.0	58	0.85	0.85
19	2.0	2.0	59	1.74	1.74
20	2.0	2.0	60	1.9	1.9
21	2.0	2.0	61	0	2.0
22	2.0	2.0	62	4.9	4.9
23	0	0	63	2.2	2.0
24	2.4	2.4	64	0.75	0.75
25	2.0	2.0	65	4.9	4.9
26	2.0	2.0	66	0.8	0.8
27	2.0	2.0	67	5.0	5.0
28	0	0	68	0	0
29	0	0	69	3.7	3.7
30	0.4	0.4	70	3.7	3.7
31	2.8	2.8	71	0	0
32	4.8	4.8	72	5.0	5.0
33	4.8	4.8	73	4.4	0.8
34	2.0	2.0	74	2.6	2.6
35	2.0	2.0	75	0.8	0.8
36	2.0	2.0	76	0.8	1.4
37	2.4	2.4	77	4.2	0
38	4.8	4.8	78	4.8	4.8
39	2.0	2.0	79	2.2	2.0
40	2.0	2.0	80	1.4	3.2

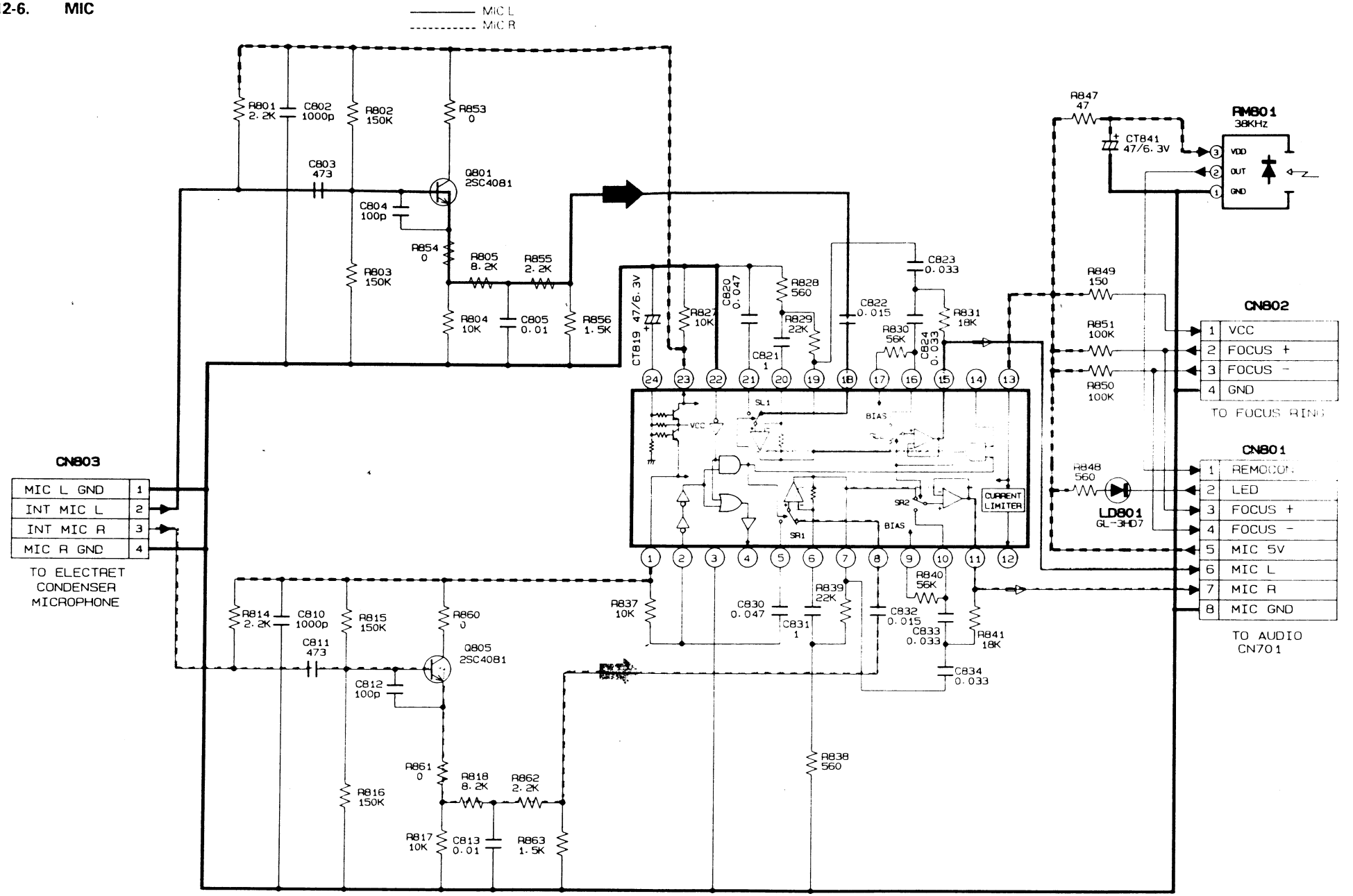
IC702(BU4053BF)		
PIN NO	REC	PLAY
1	0.0V	0.1V
2	0.0V	2.4V
3	0.0V	0.0V
4	0.0V	2.4V
5	2.4V	2.4V
6	0.0V	0.0V
7	0.0V	0.0V
8	0.0V	0.0V
9	5.0V	0.0V
10	5.0V	0.0V
11	5.0V	0.0V
12	2.4V	2.4V
13	0.1V	0.0V
14	0.1V	2.4V
15	0.1V	2.4V
16	4.9V	4.9V

TR NO	PB(REC) MODE		
	E	B	C
Q701	1.2	1.8	3.2
Q702	2.5	3.2	4.8

IC701 HA118276F

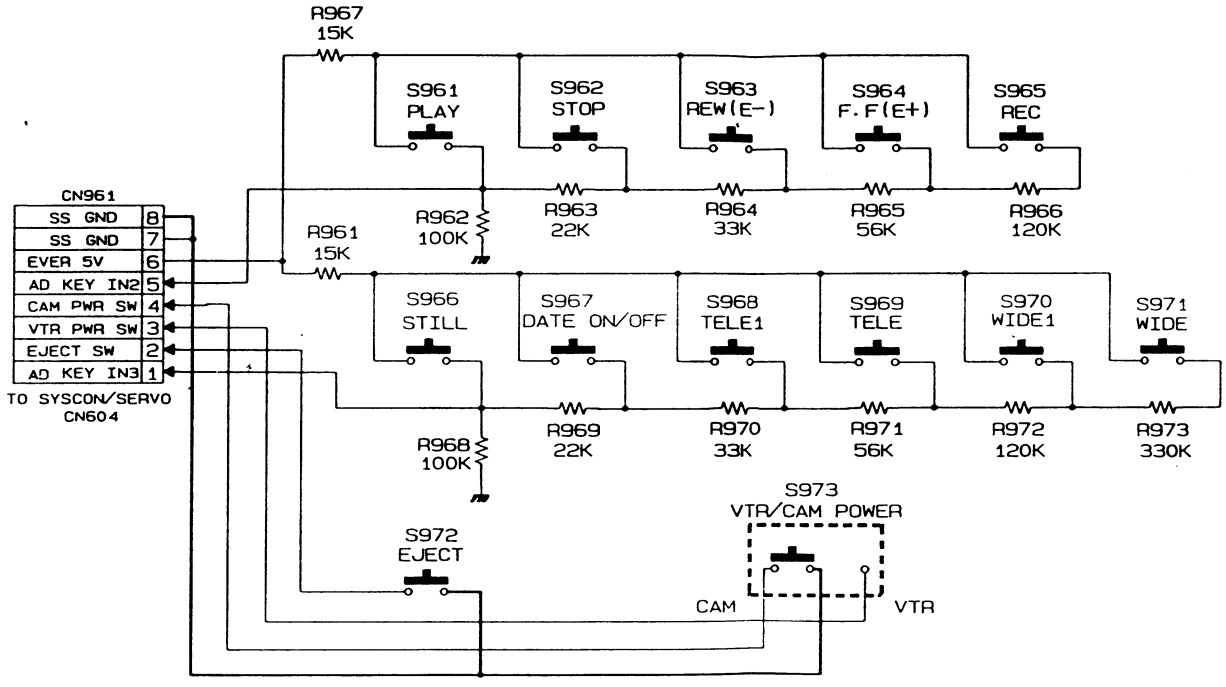


12-6. MIC


MIC L
MIC R
R801 2.2K
C802 1000p
R802 150K
R853 0
C803 473
Q801 2SC4081
C804 100p
R854 0
R805 8.2K
R855 2.2K
R803 150K
R804 10K
C805 0.01
R856 1.5K
CT819 47/6.3V
R827 10K
C820 0.047
R828 560
C821 1
R829 22K
C822 0.015
C823 0.033
R830 56K
C824 0.033
R831 18K
R847 47
CT841 47/6.3V
RM801 38KHz
VDD
OUT
GND
R849 150
R851 100K
R850 100K
CN802
1 VCC
2 FOCUS +
3 FOCUS -
4 GND
TO FOCUS RING
CN803
MIC L GND 1
INT MIC L 2
INT MIC R 3
MIC R GND 4
TO ELECTRET CONDENSER MICROPHONE
SL1
VCC
BIAS
SR2
SR1
CURRENT LIMITER
R848 560
LD801 GL-3HD7
CN801
1 REMOCON
2 LED
3 FOCUS +
4 FOCUS -
5 MIC 5V
6 MIC L
7 MIC R
8 MIC GND
TO AUDIO CN701
R814 2.2K
C810 1000p
R815 150K
R860 0
C811 473
Q805 2SC4081
C812 100p
R837 10K
C830 0.047
C831 1
R839 22K
C832 0.015
R840 56K
C833 0.033
R841 18K
C834 0.033
R838 560
R861 0
R818 8.2K
R862 2.2K
R816 150K
R817 10K
C813 0.01
R863 1.5K

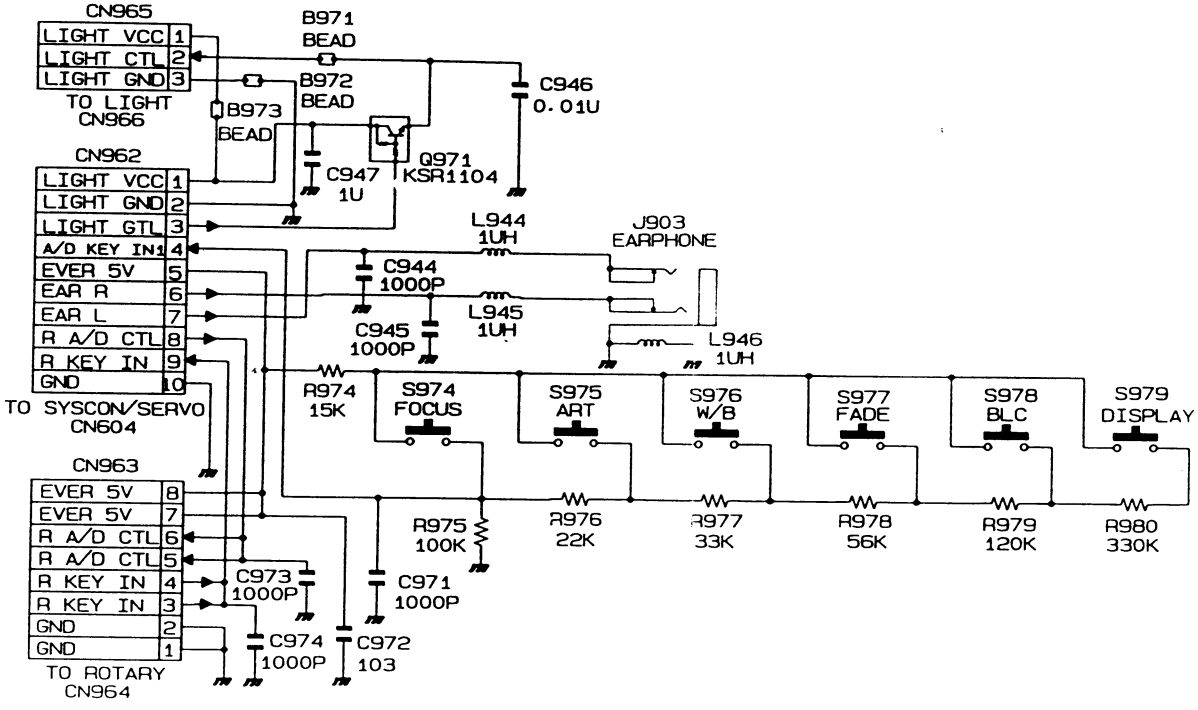
FUNCTION VCR

12-7. FUNCTION VCR



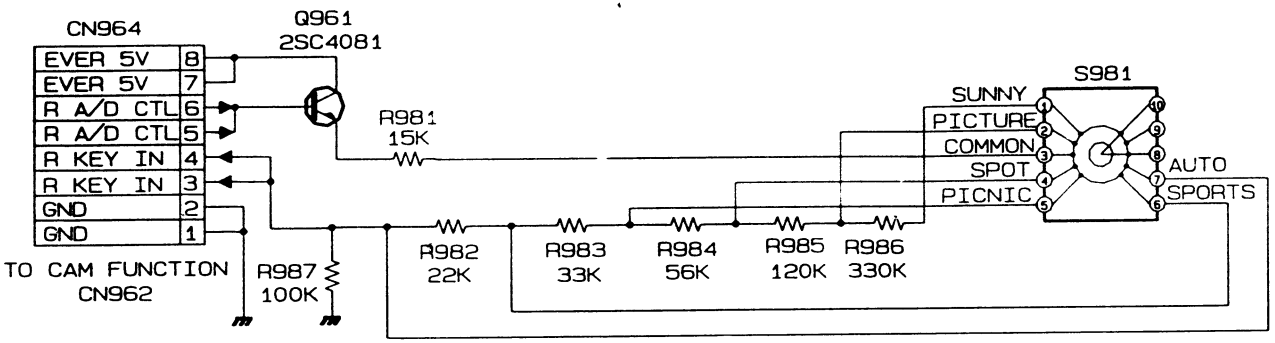
12-8. FUNCTION CAMERA

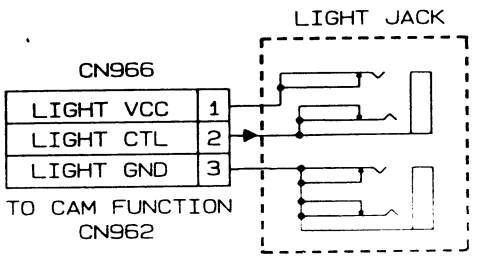
FUNCTION CAMERA



12-9. FUNCTION ROTARY

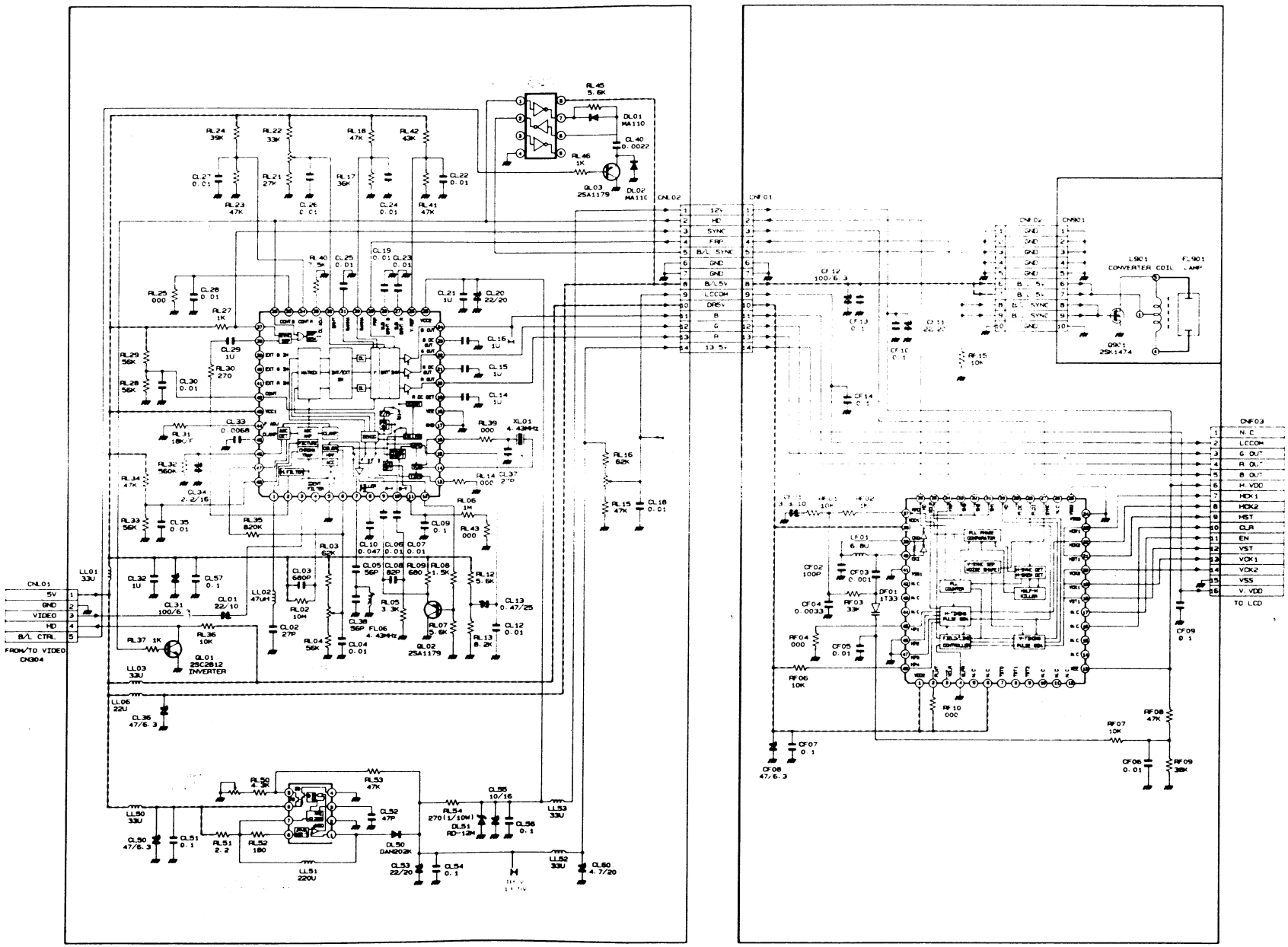
FUNCTION ROTARY





C. V. F

12-10. C.V.F


CNL01
5V
GND
VIDEO
HD
B/L CTRL
FROM/TO VIDEO CKG04
CNL02
12V
HD
SYNC
FBP
B/L SYNC
GND
GND
B/L 5V
LCCOM
DRSV
B
G
R
13.5V
CNF01
CNF02
CNF03
N.C
LCCOM
G OUT
R OUT
B OUT
H.VDD
HDK1
HDK2
HST
CLR
EN
VST
VCK1
VCK2
VSS
V.VDD
TO LCD
LL01 33U
LL02 47uH
LL03 33U
LL06 22U
LL50 33U
LL51 220U
LL52 33U
LL53 33U
CL01 22/10
CL31 100/6.3
CL36 47/6.3
CL50 47/6.3
CL57 0.1
QL01 2SC2812 INVERTER
QL02 2SA1179
QL03 2SA1179
DL01 MA110
DL02 MA110
DL50 DAN202K
DL51 RD-12M
FL06 4.43MHz
XL01 4.43MHz
L901 CONVERTER COIL
FL901 LAMP
Q901 2SK1474
CF12 100/6.3
CF13 0.1
CF14 0.1
CF15 10K
CF01 1733
CF02 100P
CF03 0.001
CF04 0.0033
CF05 0.01
CF06 0.01
CF07 0.1
CF08 47/6.3
CF09 0.1
RF01 33K
RF02 100K
RF03 33K
RF04 000
RF05 0.01
RF06 10K
RF07 10K
RF08 47K
RF09 39K
RF10 000
RL45 5.6K
RL46 1K
RL16 62K
RL15 47K
RL18 0.1
RL03 62K
RL06 1M
RL43 000
RL39 000
RL14 000
RL12 5.6K
RL13 8.2K
RL07 5.6K
RL05 3.3K
RL08 1.5K
RL09 680
RL04 56K
RL02 10M
RL36 10K
RL37 1K
RL50 4.3K
RL53 47K
RL54 270(1/10W)
RL51 2.2
RL52 180
CL55 10/16
CL56 0.1
CL52 47P
CL53 22/20
CL54 0.1
CL50 4.7/20
CL05 56P
CL08 82P
CL38 56P
CL02 27P
CL04 0.01
CL12 0.01
CL13 0.47/25
CL09 0.1
CL10 0.047
CL06 0.01
CL07 0.01
CL33 0.0068
CL34 2.2/16
CL35 0.01
CL03 6800P
CL01 22/10
CL31 100/6.3
CL32 1U
CL57 0.1
CL40 0.0022
CL41 0.01
CL22 0.01
CL24 0.01
CL25 0.01
CL26 0.01
CL27 0.01
CL28 0.01
CL29 1U
CL30 0.01
CL16 1U
CL15 1U
CL14 1U
CL21 1U
CL20 22/20
CL19 0.01
CL23 0.01
RL40 7.5K
RL41 47K
RL42 43K
RL17 36K
RL21 27K
RL22 33K
RL23 47K
RL24 39K
RL25 000
RL26 000
RL27 1K
RL28 56K
RL29 56K
RL30 270
RL31 180/F
RL32 560K
RL33 56K
RL34 47K
RL35 820K

C. V. F

ICL01 (CXA1785AR)

PIN NO	VOLTAGE(DC)
1	2.1
2	4.4
3	2.2
4	2.1
5	0.0
6	3.1
7	N.C
8	0.9
9	N.C
10	N.C
11	1.9
12	N.C
13	3.0
14	4.3
15	2.5
16	3.1
17	0.0
18	0.0
19	2.6
20	6.0
21	2.6
22	6.0
23	2.6
24	6.0
25	12.0
26	2.6
27	2.4
28	2.4
29	2.5
30	2.2
31	2.5
32	2.3
33	1.3
34	2.7
35	2.4
36	0.5

ICL01 (CXA1785AR)

PIN NO	VOLTAGE(DC)
37	0.6
38	2.6
39	N.C
40	N.C
41	N.C
42	2.4
43	5.0
44	1.3
45	1.9
46	2.2
47	1.4
48	2.7

ICL50 (NJM2369M)

PIN NO	VOLTAGE(DC)
1	4.7
2	0.0
3	0.4
4	0.0
5	1.3
6	5.0
7	4.9
8	4.3

TR NO	E	B	C
QL01	0.0	0.1	4.2
QL02	2.7	2.1	0.0

ICF01 (CXD2403AR)

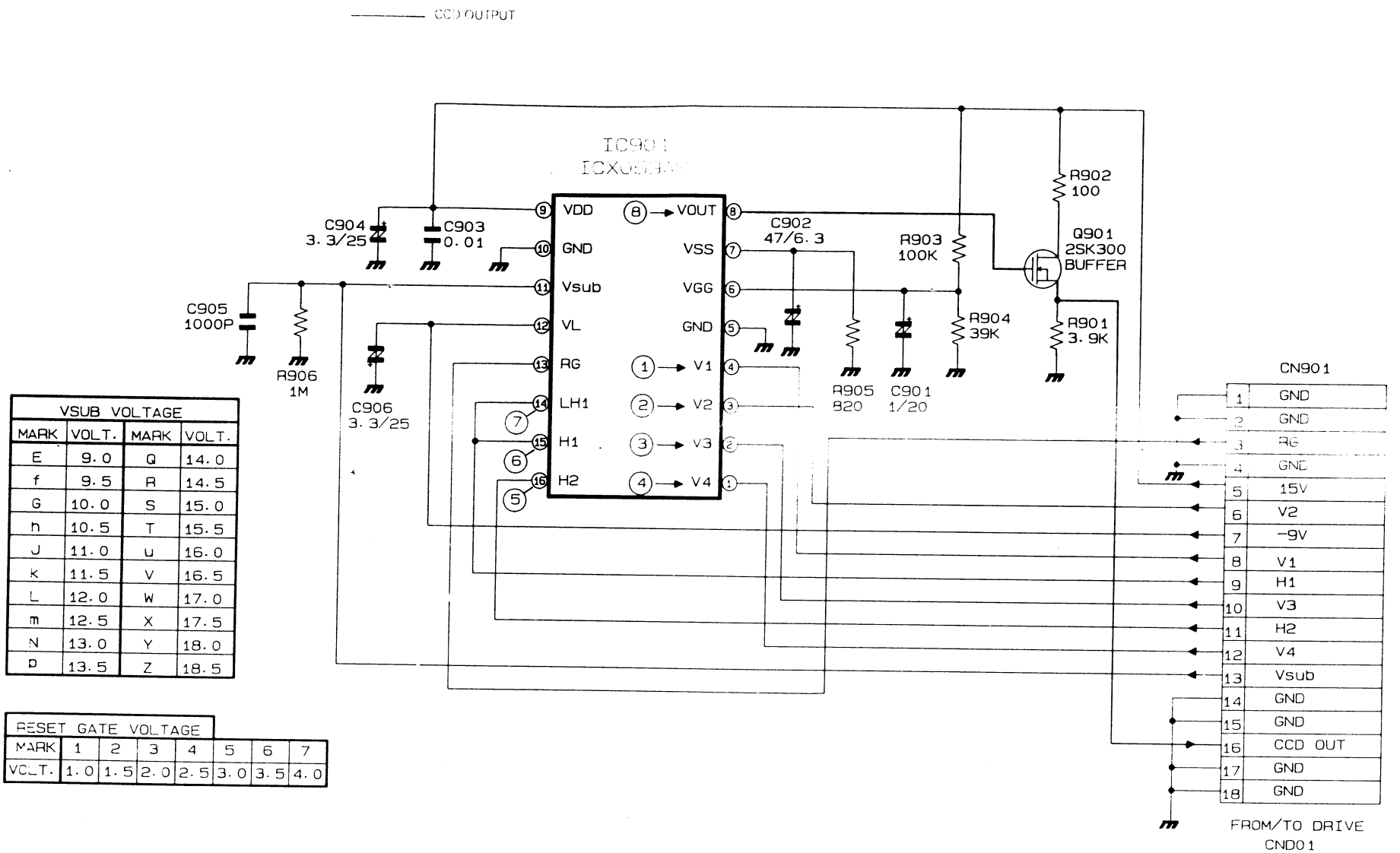
PIN NO	VOLTAGE(DC)
1	5.0
2	5.0
3	N.C
4	0.0
5	N.C
6	5.0
7	N.C
8	N.C
9	N.C
10	N.C
11	N.C
12	N.C
13	12.0
14	N.C
15	N.C
16	0.7
17	0.0
18	0.1
19	6.0
20	6.0
21	0.0
22	6.0
23	5.6
24	0.0
25	0.0
26	N.C
27	0.6
28	N.C
29	N.C
30	N.C
31	N.C
32	N.C
33	N.C
34	2.5
35	N.C
36	0.5

ICF01 (CXD2403AR)

PIN NO	VOLTAGE(DC)
37	3.1
38	5.0
39	2.7
40	2.6
41	0.0
42	N.C
43	N.C
44	N.C
45	0.0
46	0.0
47	0.0
48	5.0

12-11. CCD

C C D

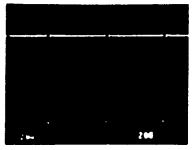


VSUB VOLTAGE			
MARK	VOLT.	MARK	VOLT.
E	9.0	Q	14.0
f	9.5	R	14.5
G	10.0	S	15.0
h	10.5	T	15.5
J	11.0	u	16.0
k	11.5	V	16.5
L	12.0	W	17.0
m	12.5	X	17.5
N	13.0	Y	18.0
p	13.5	Z	18.5

RESET GATE VOLTAGE							
MARK	1	2	3	4	5	6	7
VOLT.	1.0	1.5	2.0	2.5	3.0	3.5	4.0

C C D

①

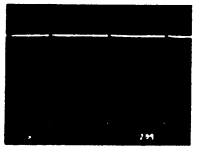


IC901-4
V1

⑤

IC901-16
H2

②

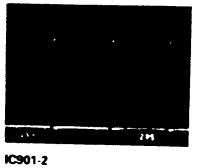


IC901-3
V2

⑥

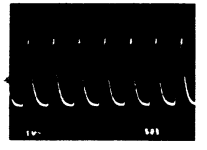
IC901-15
H1

③



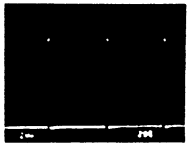
IC901-2
V3

⑦



IC901-13
RG

④



IC901-1
V4

⑧

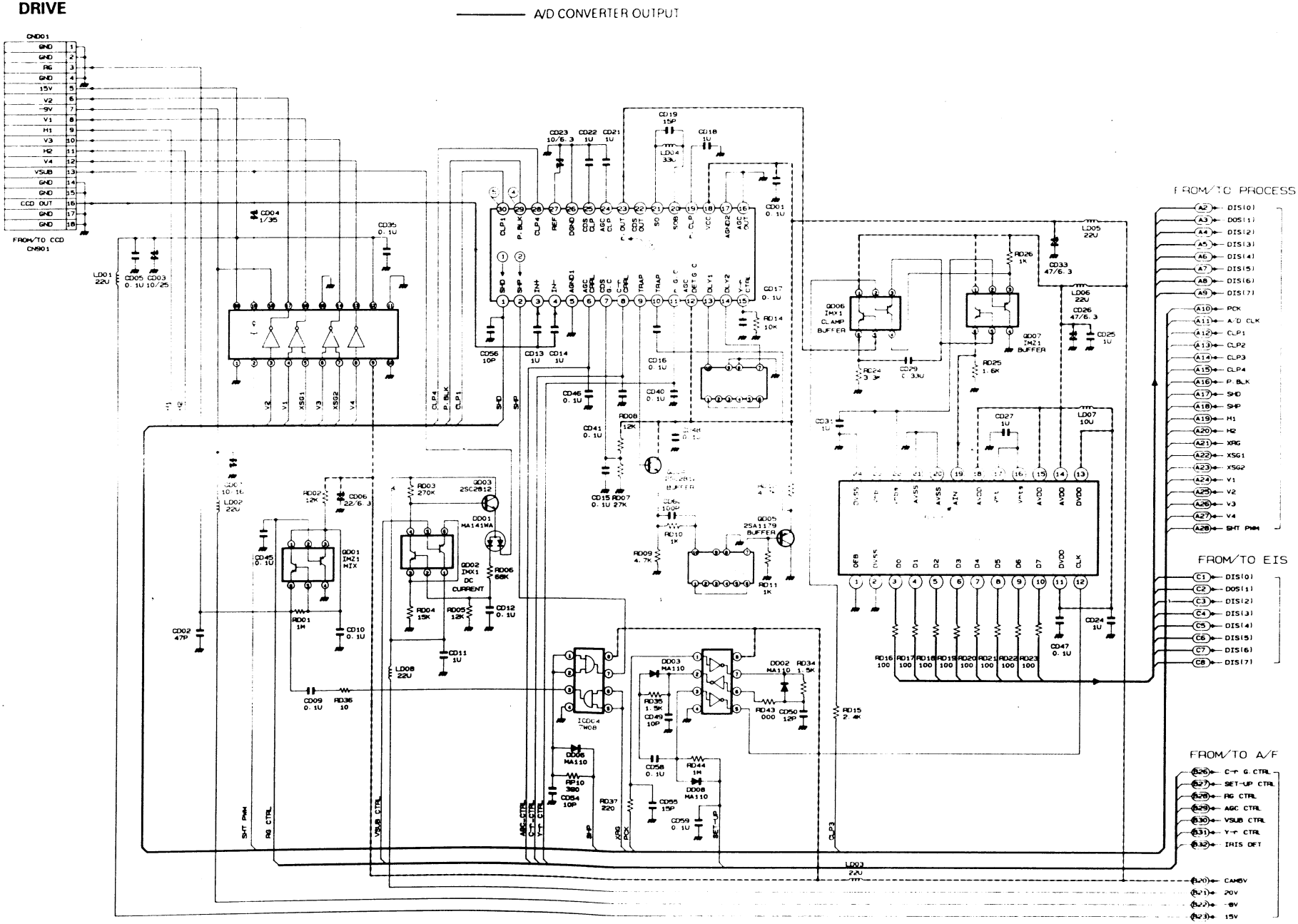
IC901-8
CCD OUT

IC901 (ICX059AK)	
PIN NO	VOLTAGE(DC)
1	-9.0
2	-9.0
3	-0.3
4	-0.3
5	0.0
6	4.3
7	3.3
8	8.9
9	15.0
10	0.0
11	0.0
12	12.0
13	3.5
14	2.3
15	2.3
16	2.3

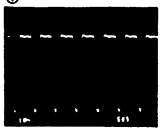
TR NO	E	B	C
Q901	10.0	8.9	14.7

DRIVE

12-12. DRIVE



DRIVE

① 

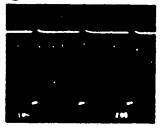
ICD02-1
SHD

②

ICD02-2
SHP

③

ICD02-23
GAMMA OUT

④ 

ICD02-29
P.BLK

⑤

ICD02 30
CLP1

⑥

ICD01 19
A.D CONV IN

ICD01 (CXD1250N)	
PIN NO	VOLTAGE(DC)
1	0.0
2	4.4
3	2.3
4	2.3
5	4.8
6	2.3
7	4.9
8	2.3
9	5.0
10	0.0
11	0.0
12	14.9
13	4.4
14	4.4
15	0.0
16	3.4
17	3.4
18	-9.5
19	-9.5
20	14.9

ICD02 (KA7302)	
PIN NO	VOLTAGE(DC)
1	3.4
2	3.2
3	3.0
4	3.0
5	0.0
6	2.3
7	3.5
8	0.5
9	1.9
10	2.3
11	4.0
12	5.0
13	2.0
14	2.0
15	0.0
16	2.7
17	0.0
18	5.0
19	2.4
20	2.2
21	2.2
22	1.8
23	2.2
24	2.4
25	2.4
26	0.0
27	1.7
28	2.0
29	3.0
30	2.0

ICD03 (KA00228)	
PIN NO	VOLTAGE(DC)
1	0.0
2	0.0
3	2.9
4	2.9
5	2.9
6	2.9
7	2.9
8	2.9
9	2.9
10	2.9
11	5.0
12	2.6
13	5.0
14	5.0
15	5.0
16	2.7
17	2.7
18	5.0
19	1.3
20	0.0
21	0.0
22	0.6
23	0.6
24	0.0

ICD04 (TC7W08)	
PIN NO	VOLTAGE(DC)
1	2.6
2	2.6
3	2.0
4	0.0
5	2.0
6	2.0
7	2.6
8	4.9

ICD05 (TC7W04)	
PIN NO	VOLTAGE(DC)
1	2.4
2	2.6
3	0.0
4	0.0
5	4.9
6	3.6
7	2.9
8	4.9

TR NO	E	B	C
QD03	14.0	14.7	20.0
QD04	1.4	1.9	5.0
QD05	0.0	1.8	2.3
QD09	2.5	2.5	0.0
QD10	2.0	2.8	5.0

QD01 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	3.6
2	3.0
3	3.6
4	0.0
5	3.6
6	3.0

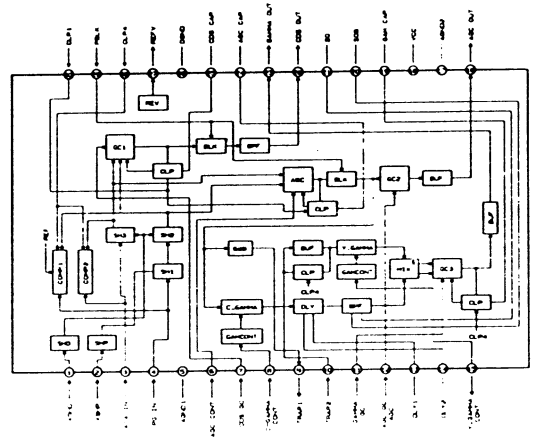
QD02 (IMX1)	
PIN NO	VOLTAGE(DC)
1	20.0
2	2.0
3	1.4
4	14.7
5	2.0
6	1.4

QD08 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	5.0
2	2.0
3	2.5
4	0.0
5	2.5
6	1.9

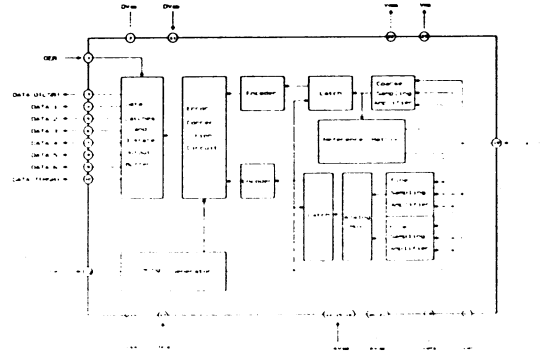
QD06 (IMX1)	
PIN NO	VOLTAGE(DC)
1	5.0
2	0.7
3	1.8
4	1.3
5	2.2
6	1.7

QD07 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	5.0
2	0.6
3	1.3
4	0.0
5	1.9
6	1.3

ICD02 KA7302



ICD03 KD0228



12-13. A/F

* The schematic diagram of "A/F" is on page 12-31

ICA01 (UPD78214)	
PIN NO	VOLTAGE(DC)
1	4.9
2	0.0
3	0.0
4	0.2
5	5.0
6	5.0
7	3.2
8	2.6
9	0.0
10	3.5
11	3.5
12	3.5
13	3.5
14	3.5
15	3.5
16	3.0
17	0.0
18	0.6
19	0.6
20	0.6
21	0.6
22	0.6
23	0.0
24	0.0
25	2.8
26	2.8
27	2.8
28	4.8
29	3.8
30	4.9
31	3.1
32	3.5
33	5.0
34	5.0
35	3.8
36	4.9

ICA01 (UPD78214)	
PIN NO	VOLTAGE(DC)
37	0.0
38	3.8
39	3.8
40	5.0
41	5.0
42	0.0
43	3.0
44	0.0
45	0.0
46	0.0
47	0.9
48	0.7
49	0.1
50	5.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0
58	0.0
59	5.0
61	3.8
60	3.8
62	3.8
63	0.0
64	5.0

ICA02 (X24C01)	
PIN NO	VOLTAGE(DC)
1	0.0
2	0.0
3	0.0
4	0.0
5	2.6
6	2.6
7	0.0
8	0.1

ICA03 (MB88346)	
PIN NO	VOLTAGE(DC)
1	0.0
2	2.7
3	2.0
4	2.3
5	1.7
6	0.2
7	3.0
8	0.2
9	0.1
10	5.0
11	5.0
12	2.4
13	3.5
14	2.5
15	0.0
16	1.0
17	2.8
18	4.8
19	4.8
20	0.0

ICA04 (TB6504)	
PIN NO	VOLTAGE(DC)
1	0.0
2	4.9
3	4.9
4	0.0
5	0.0
6	0.0
7	4.9
8	2.6
9	0.0
10	0.0
11	0.5
12	3.5
13	1.7
14	0.2
15	0.0
16	0.5
17	0.0
18	0.0
19	0.6
20	4.9
21	0.0
22	2.0
23	0.6
24	4.9

ICA05 (TB6504)	
PIN NO	VOLTAGE(DC)
1	0.0
2	4.9
3	4.9
4	0.0
5	0.0
6	0.0
7	4.9
8	2.6
9	2.6
10	0.0
11	0.2
12	0.3
13	1.7
14	1.5
15	0.0
16	0.1
17	0.0
18	0.0
19	0.0
20	4.9
21	0.0
22	2.0
23	0.6
24	4.9

ICA06 (NJM3403)	
PIN NO	VOLTAGE(DC)
1	2.0
2	2.0
3	2.0
4	4.9
5	1.9
6	1.9
7	1.9
8	0.7
9	1.9
10	1.9
11	0.0
12	0.0
13	0.0
14	0.0

ICA07 (NJM3414)	
PIN NO	VOLTAGE(DC)
1	2.9
2	2.9
3	2.9
4	0.0
5	1.9
6	1.9
7	4.0
8	4.9

TR NO	E	B	C
QA01	0.0	0.2	0.0
QA02	5.0	5.0	0.1
QA03	4.9	4.2	4.9
QA04	0.0	0.0	3.5
QA06	0.0	4.3	0.0
QA07	0.0	4.3	0.0
QA12	2.2	2.8	3.7

QA08 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	4.9
2	1.4
3	1.9
4	0.0
5	2.0
6	1.4

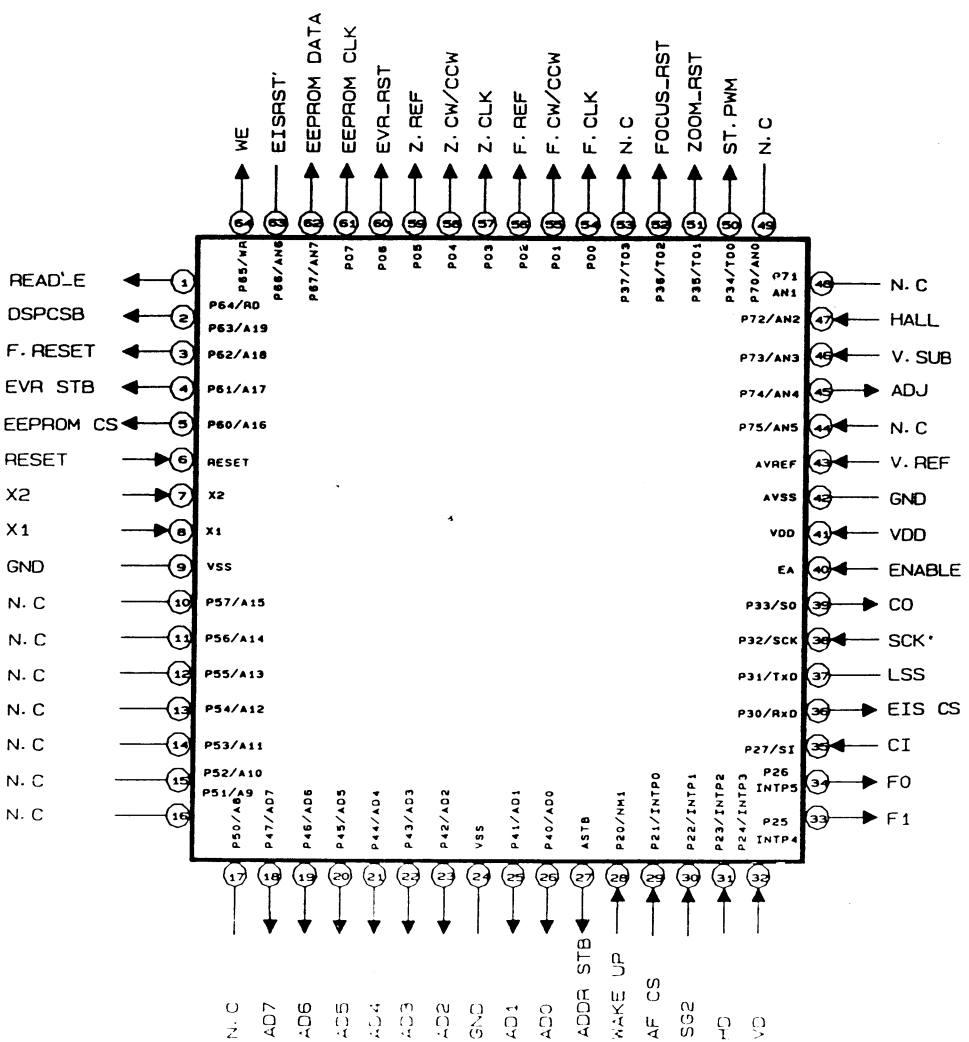
QA09 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	4.9
2	1.9
3	2.5
4	0.0
5	2.5
6	1.9

QA10 (IMZ1)	
PIN NO	VOLTAGE(DC)
1	4.9
2	1.2
3	1.8
4	0.0
5	1.8
6	1.2

QA11 (IMT1)	
PIN NO	VOLTAGE(DC)
1	4.2
2	3.7
3	4.3
4	3.7
5	3.7
6	4.3

A / F

ICA01 uPD78214GC



12-14. PROCESS

The schematic diagram of "PROCESS" is on page 12-32

PROCESS

ICP01 (KS7301)

PIN NO	VOLTAGE(DC)
1	2.7
2	2.8
3	2.8
4	4.8
5	0.0
6	0.0
7	4.8
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	2.6
15	2.1
16	2.2
17	2.1
18	2.2
19	3.0
20	3.3
21	0.0
22	3.3
23	3.3
24	2.5
25	2.2
26	4.9
27	4.9
28	3.4
29	2.3
30	2.3
31	3.2
32	3.3
33	4.9
34	0.0
35	2.2
36	2.5
37	4.9
38	4.9
39	4.9
40	4.9

ICP01 (KS7301)

PIN NO	VOLTAGE(DC)
41	0.0
42	0.0
43	4.9
44	0.0
45	0.0
46	0.0
47	4.9
48	4.6
49	4.9
50	4.9
51	0.0
52	0.0
53	4.7
54	4.6
55	0.1
56	5.0
57	3.7
58	5.0
59	0.6
61	0.6
60	0.6
62	0.6
63	0.6
64	0.6
65	0.6
66	0.0
67	0.6
68	0.0
69	0.0
70	0.0
71	0.0
72	0.0
73	0.0
74	1.9
75	4.9
76	4.9
77	4.9
78	4.9
79	0.0
80	0.0

ICP01 (KS7301)

PIN NO	VOLTAGE(DC)
81	4.9
82	0.0
83	0.0
84	0.0
85	0.0
86	0.0
87	0.0
88	0.0
89	0.0
90	0.0
91	0.0
92	0.0
93	0.0
94	0.0
95	0.0
96	0.0
97	0.0
98	0.0
99	0.0
100	0.0
101	0.0
102	0.0
103	0.0
104	0.0
105	0.0
106	0.0
107	0.0
108	0.0
109	2.5
110	2.8
111	3.3
112	3.1
113	4.9
114	2.8
115	2.8
116	2.8
117	2.8
118	2.8
119	2.8
120	0.0

ICP01 (KS7301)

PIN NO	VOLTAGE(DC)
121	2.8
122	2.8
123	2.8
124	2.8
125	2.8
126	2.8
127	2.8
128	2.8
129	2.8
130	2.8
131	4.9
132	2.9
133	0.0
134	0.0
135	3.1
136	1.5
137	0.3
138	4.9
139	4.9
140	2.5
141	5.0
142	2.5
143	2.8
144	2.8
145	2.8
146	2.8
148	2.8
147	2.8
149	2.8
150	2.8
151	4.8
152	2.9
153	2.9
154	0.0
155	2.9
156	2.9
157	2.9
158	2.9
159	2.9
160	2.9

ICP02 (KDA0408)

PIN NO	VOLTAGE(DC)
1	4.0
2	0.0
3	4.0
4	0.0
5	4.6
6	0.0
7	4.4
8	0.0
9	4.0
10	5.0
11	5.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	2.7
23	2.9
24	0.0
25	2.8
26	2.8
27	2.8
28	2.8
29	2.8
30	2.8
31	2.8
32	2.8
33	2.8
34	2.8
35	2.8
36	2.8

ICP02 (KDA0408)

PIN NO	VOLTAGE(DC)
37	0.0
38	2.7
39	2.7
40	2.7
41	2.3
42	0.0
43	0.0
44	5.0
45	2.6
46	5.0
47	4.0
48	0.0

ICP03 (TC4S66)

PIN NO	VOLTAGE(DC)
1	0.0
2	4.6
3	0.0
4	0.0
5	4.9

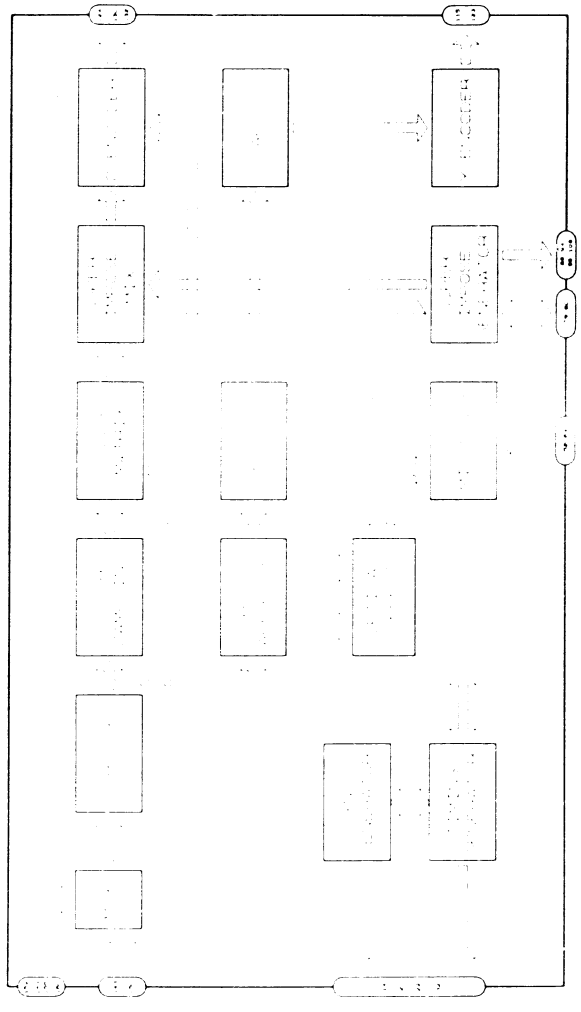
ICP04 (TC7W04)

PIN NO	VOLTAGE(DC)
1	4.8
2	4.9
3	0.0
4	0.0
5	4.9
6	0.0
7	0.0
8	4.9

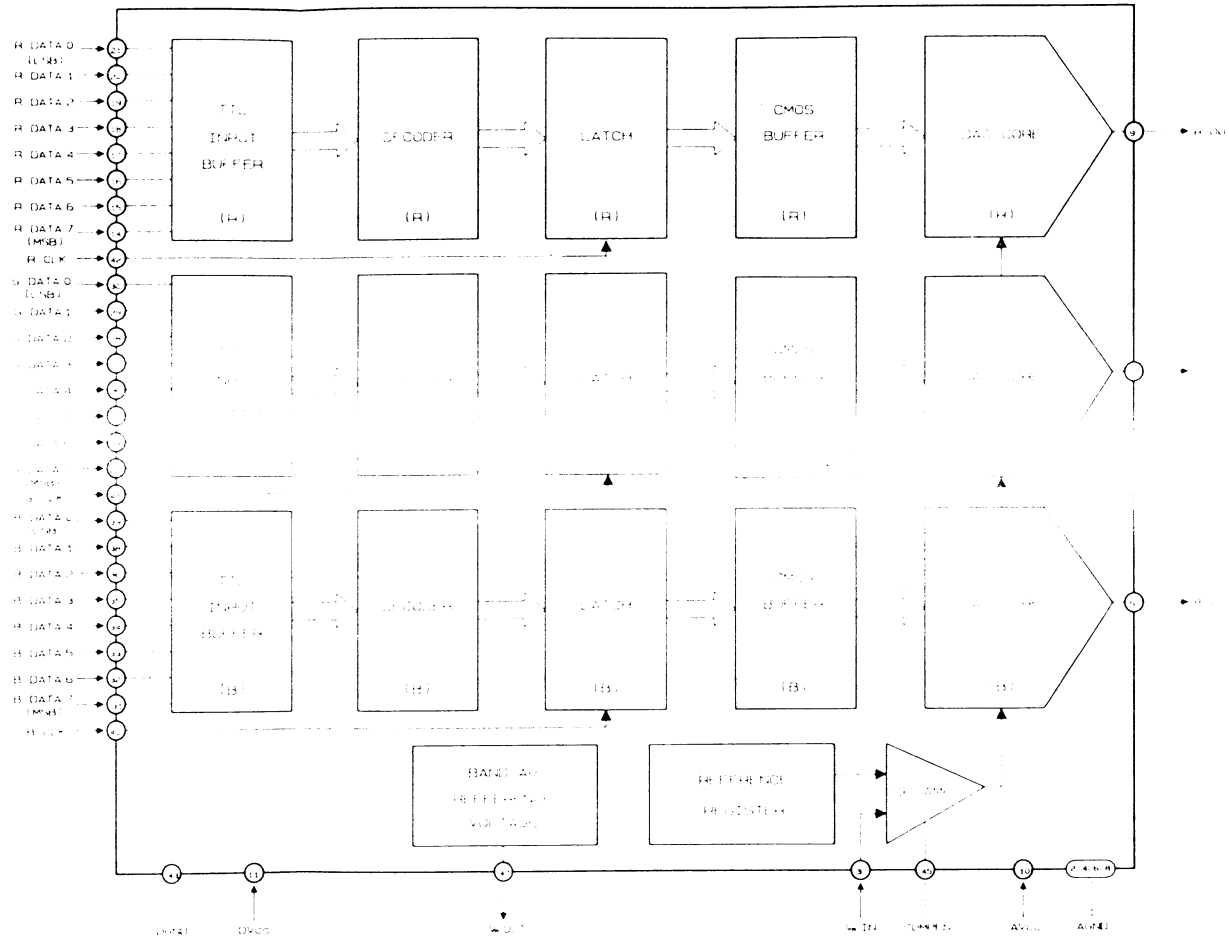
TR NO	E	B	C
QP01	5.0	4.8	1.8
QP02	0.0	0.2	2.0
QP03	3.8	4.5	5.0
QP04	2.6	3.8	4.6
QP05	1.9	2.6	4.0
QP06	3.3	4.0	5.0
QP07	3.4	4.0	5.0
QP08	3.4	4.1	5.0
QP09	4.0	4.6	5.0
QP10	2.2	2.8	3.4
QP11	2.8	3.4	5.0
QP12	0.0	0.0	4.8

PROCESS

ICP01 KS7301

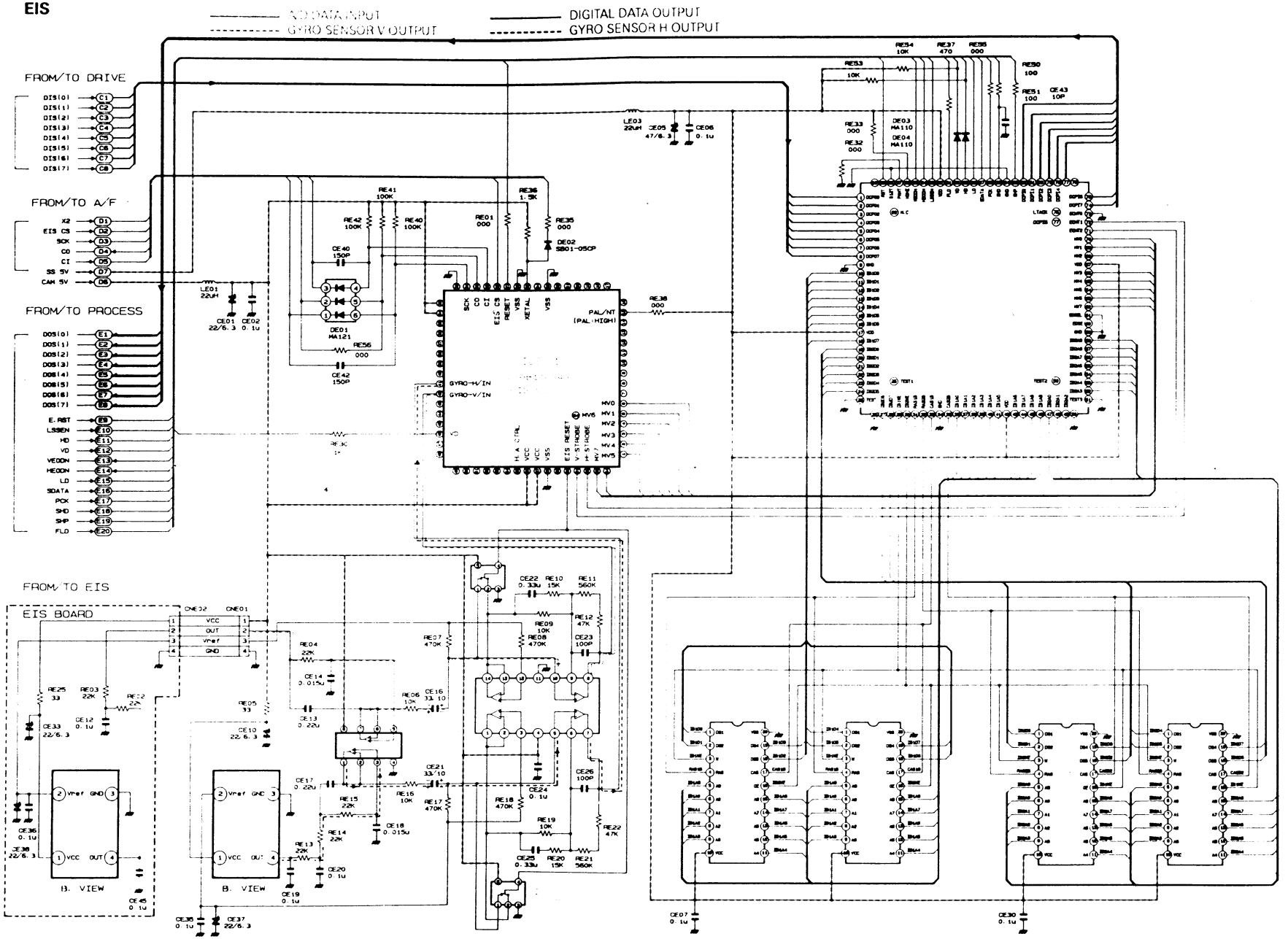


ICP02 KDA0408



EIS

12-15. EIS


A/D DATA INPUT
GYRO SENSOR V OUTPUT
DIGITAL DATA OUTPUT
GYRO SENSOR H OUTPUT
FROM/TO DRIVE
FROM/TO A/F
FROM/TO PROCESS
FROM/TO EIS
EIS BOARD
B. VIEW
PAL/NT
(PAL:HIGH)
GYRO-H/IN
GYRO-V/IN

EIS

ICE01 (CXP811P24R)	
PIN NO	VOLTAGE(DC)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	5.0
16	0.0
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.0
24	1.8
25	2.1
26	0.0
27	4.8
28	4.8
29	0.4
30	4.5
31	4.5
32	0.0
33	4.8
34	4.8
35	0.0
36	0.0

ICE01 (CXP80724)	
PIN NO	VOLTAGE(DC)
37	0.0
38	0.0
39	0.0
40	2.2
41	2.2
42	0.0
43	0.0
44	0.0
45	0.0
46	4.7
47	4.0
48	4.0
49	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0
58	0.0
59	0.0
60	0.0
61	2.3
62	2.3
63	3.6
64	0.0

ICE03 (NJM3414)	
PIN NO	VOLTAGE(DC)
1	2.4
2	2.4
3	2.4
4	0.0
5	2.2
6	2.3
7	2.3
8	5.0

ICE04 (NJM3403A)	
PIN NO	VOLTAGE(DC)
1	2.4
2	2.4
3	2.3
4	5.0
5	2.4
6	2.4
7	2.3
8	2.3
9	2.4
10	2.4
11	0.0
12	2.3
13	2.4
14	2.4

ICE05 (TC4S66)	
PIN NO	VOLTAGE(DC)
1	2.4
2	2.4
3	0.0
4	0.0
5	5.0

ICE02 (KS7304)	
PIN NO	VOLTAGE(DC)
1	2.8
2	2.8
3	2.8
4	2.8
5	2.8
6	2.8
7	2.8
8	2.8
9	0.0
10	2.9
11	2.9
12	2.9
13	2.9
14	2.9
15	2.9
16	2.9
17	5.0
18	2.7
19	2.7
20	2.7
21	2.7
22	2.7
23	2.7
24	2.7
25	0.0
26	0.0
27	2.9
28	2.9
29	2.9
30	2.9
31	2.9
32	2.9
33	2.9
34	0.0
35	2.9
36	2.9

ICE02 (KS7304)	
PIN NO	VOLTAGE(DC)
37	2.9
38	2.9
39	2.9
40	2.9
41	2.9
42	2.9
43	2.9
44	2.9
45	2.9
46	2.9
47	2.9
48	2.9
49	2.9
50	0.0
51	0.0
52	2.9
53	2.9
54	2.9
55	2.9
56	2.9
57	2.9
58	2.9
59	0.0
60	0.0
61	0.0
62	3.5
63	3.5
64	3.5
65	3.5
66	3.5
67	5.0
68	3.5
69	3.5
70	3.5
71	2.0
72	2.0

ICE02 (KS7304)	
PIN NO	VOLTAGE(DC)
73	0.0
74	2.6
75	2.8
76	0.0
77	2.6
78	2.6
79	2.6
80	2.6
81	2.6
82	2.6
83	2.6
84	0.0
85	2.6
86	2.6
87	2.6
88	2.6
89	2.6
90	2.6
91	3.5
92	5.0
93	5.0
94	3.5
95	3.5
96	5.0
97	5.0
98	0.0
99	4.9
100	0.0

ICE06 (TC4S66)	
PIN NO	VOLTAGE(DC)
1	2.4
2	2.4
3	0.0
4	0.0
5	5.0

ICE07 (BNC-05D8)	
PIN NO	VOLTAGE(DC)
1	5.0
2	2.4
3	0.0
4	2.4

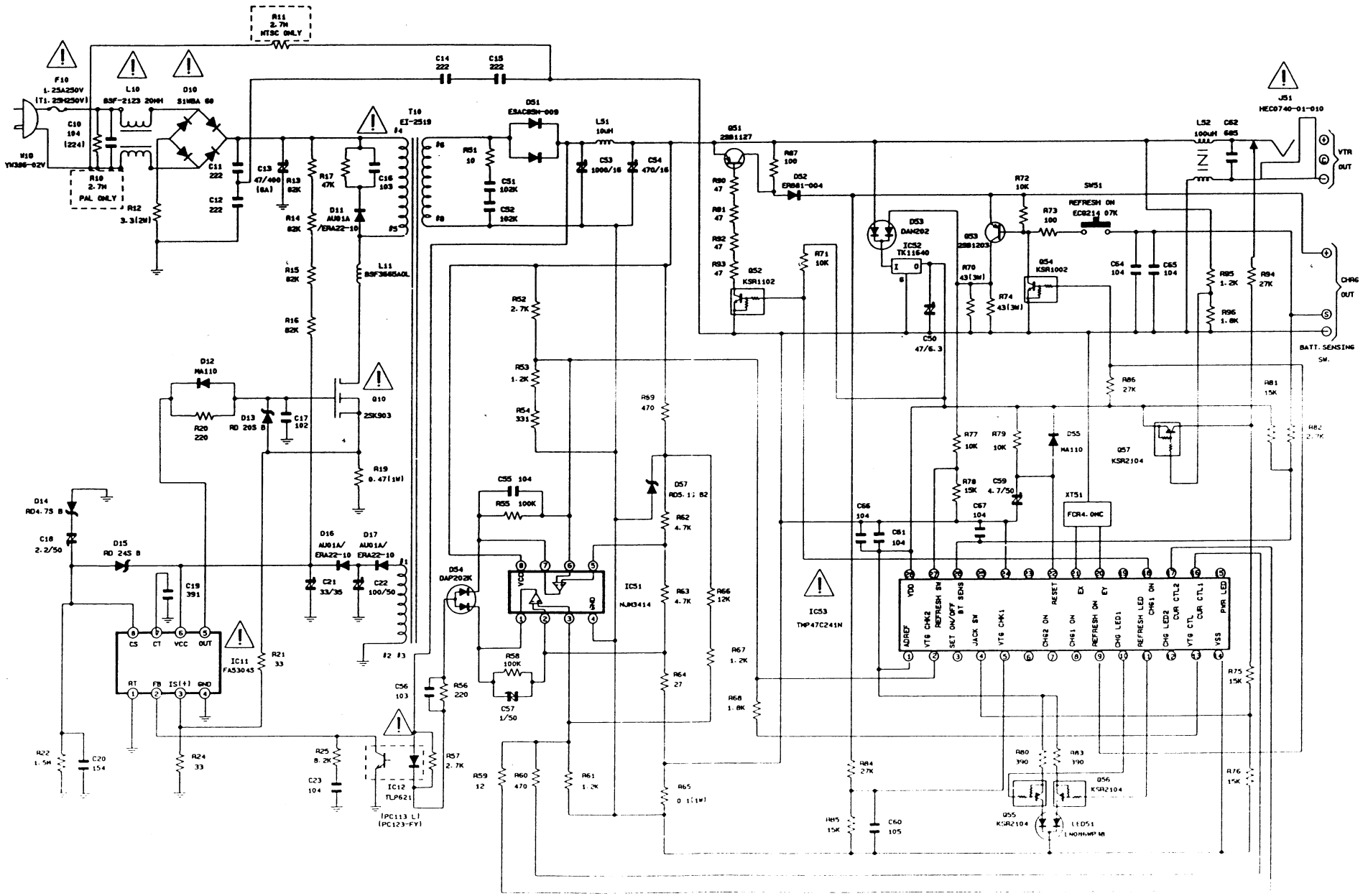
ICE08 (KM44C1000)	
PIN NO	VOLTAGE(DC)
1	2.9
2	2.9
3	2.9
4	2.9
5	2.9
6	2.9
7	2.9
8	2.9
9	2.9
10	5.0
11	2.9
12	2.9
13	2.9
14	2.9
15	2.9
16	2.9
17	2.9
18	2.9
19	2.9
20	0.0

ICE09 (KM44C1000)	
PIN NO	VOLTAGE(DC)
1	2.9
2	2.9
3	2.9
4	2.9
5	2.9
6	2.9
7	2.9
8	2.9
9	2.9
10	5.0
11	2.9
12	2.9
13	2.9
14	2.9
15	2.9
16	2.9
17	2.9
18	2.9
19	2.9
20	0.0

ICE10 (KM44C1000)	
PIN NO	VOLTAGE(DC)
1	2.9
2	2.9
3	2.9
4	2.9
5	2.9
6	2.9
7	2.9
8	2.9
9	2.9
10	5.0
11	2.9
12	2.9

ICE10 (KM44C1000)	
PIN NO	VOLTAGE(DC)
13	2.9
14	2.9
15	2.9
16	2.9
17	2.9
18	2.9
19	2.9
20	0.0

ICE11 (KM44C1000)	
PIN NO	VOLTAGE(DC)
1	2.9
2	2.9
3	2.9
4	2.9
5	2.9
6	2.9
7	2.9
8	2.9
9	2.9
10	5.0
11	2.9
12	2.9
13	2.9
14	2.9
15	2.9
16	2.9
17	2.9
18	2.9
19	2.9
20	0.0

ADAPTOR

12-16. ADAPTOR